TENSAI KN5000

MODEL

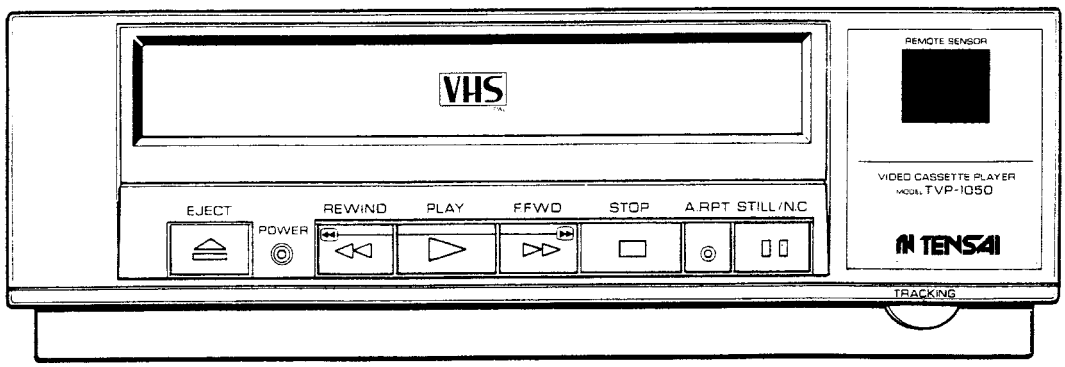
SERVICE MANUAL

TENSAI

MODEL TVP-1050

VHS
PAL

Video Cassette Player



SERVICE MANUAL

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Section 1
GENERAL DESCRIPTION

This manual provides service information for our VHS player.
The manual describes the principles and adjustments of mechanical and electrical operation for this model.
Service procedures given herein cover only field maintenance services.
Adjustments which require high-level instruments, jigs and techniques are excluded, since they should be performed at the factory.
Due to design modifications, the servicing procedures and data given in this manual are subject to possible change without prior notice.

Important Safety Precaution

Prior to shipment from the factory, our products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Parts identified by the ⚠ symbol are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
5. When replacing AC primary side components (transformers, power cords, etc.), wrap ends of wires securely on the terminals before soldering.
6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. When a power cord has been replaced, check that force (maximum apply force should be 20–30 lbs.) in any direction will not loosen it.
9. Also check areas surrounding repaired locations.
10. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside of unit.

• Safety Check after Servicing

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, video and audio output terminals, etc.).

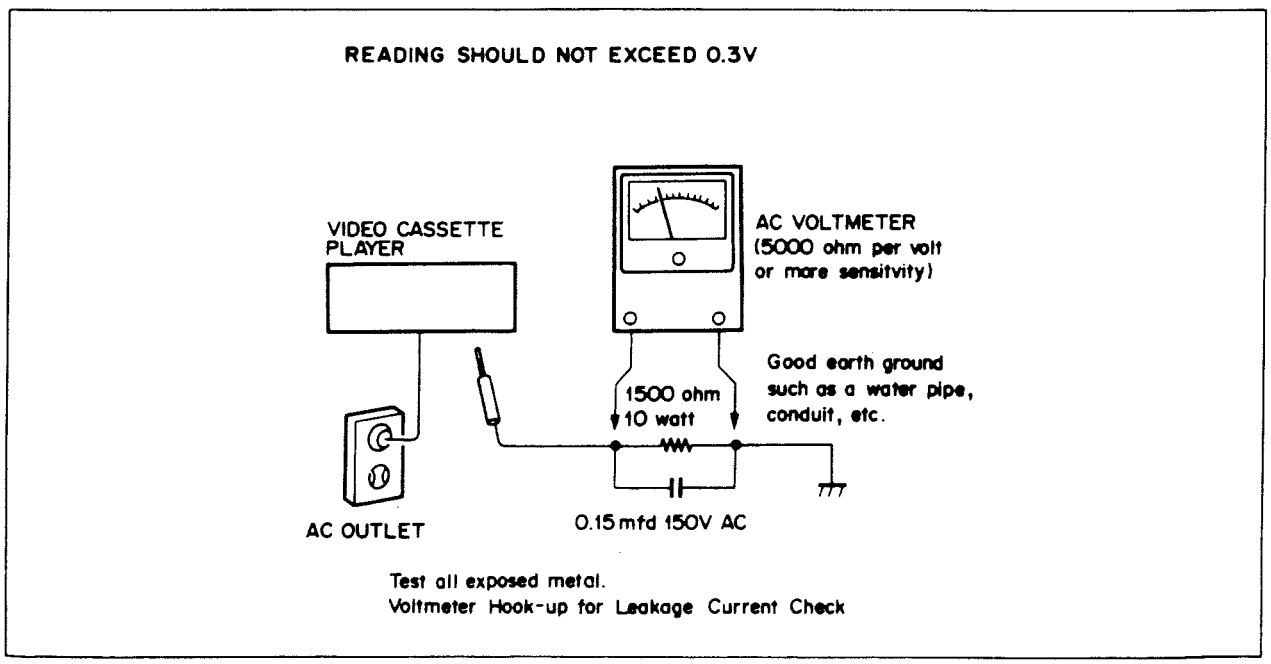
2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio output terminals, etc.).

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance.

4. **Leakage current test**

Leakage Current Check

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000 ohms per volt or more sensitivity.
Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 mfd 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet, screwheads, metal overlays, control shafts, etc.).
Measure the AC voltage across the 1500 ohm resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3 volts. A reading exceeding 0.3 volts indicates that a dangerous potential exists, the fault must be located and corrected.
Repeat the above test with the VCP power plug reversed. NEVER RETURN A VCP TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.


READING SHOULD NOT EXCEED 0.3V
VIDEO CASSETTE PLAYER
AC VOLTMETER (5000 ohm per volt or more sensitvity)
Good earth ground such as a water pipe, conduit, etc.
1500 ohm 10 watt
AC OUTLET
0.15 mfd 150V AC
Test all exposed metal.
Voltmeter Hook-up for Leakage Current Check

Section 2
ELECTRICAL DESCRIPTION
Electrical Adjustment

PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Required test equipment

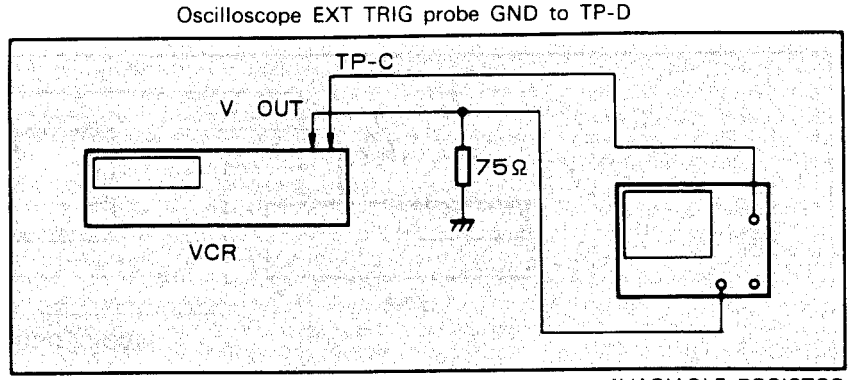
1. Oscilloscope: Wide-band, Dual-trace W/EXT TRIG 40MHz.
2. Color Monitor Television
3. Test tape: TPS-1
4. Audio Noise Meter or Distortion Meter.

Alignment Tape Contents

Ref. NO.	Video Signal	Audio Signal	Applications
TPS-1	Stairstep	6kHz(−10dB)	● Tracking Volume Preset ● Audio Azimuth ● PG-1 ● PG-2

1 – (1) PG-1
(2) PG-2

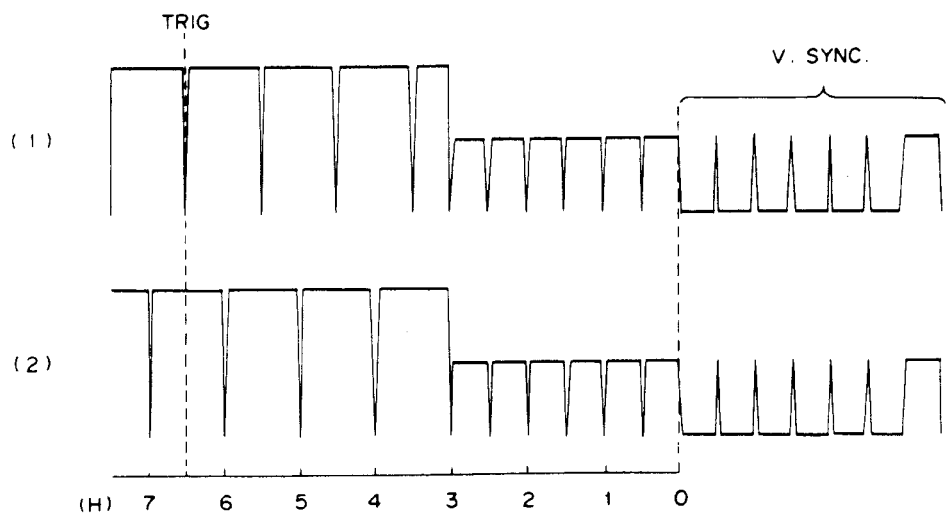
(Specified Tape) TPS-1 (A:6KHz V:Stairstep)
(Specified Measuring Equipment) Oscilloscope (Dual-Trace W/EXT TRIG 40MHz)
(Connections) Oscilloscope Ch. 1 probe to TP-A
Oscilloscope EXT TRIG probe CORE to TP-C
Oscilloscope EXT TRIG probe GND to TP-D



*VARIABLE REGISTOR

(Adjustments) At PCB PG-1 ADJ.*VR., set to that the no. of horizontal scan lines from the FR switching position to the V SYNC leading edge is 6.5 H PG-1
At PCB PG-2 ADJ. VR., set to that the no. of horizontal scan lines from the RF switching position to the V SYNC leading edge is 6.5 H PG-2

VHS SPECIFICATION 6.5 ±1.5 H

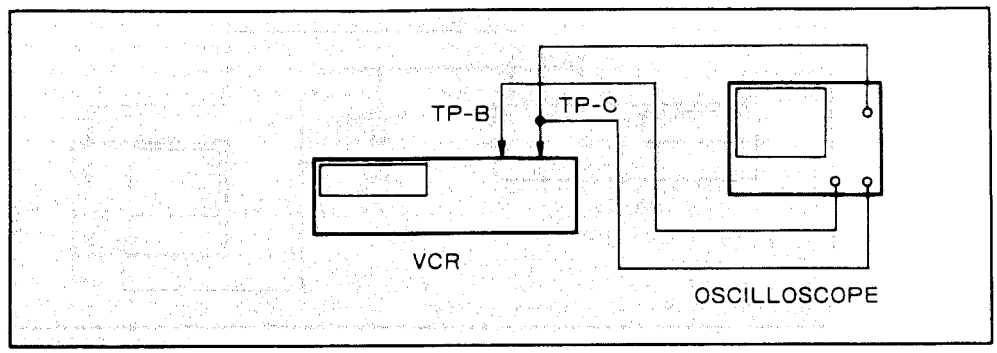


(in actuality a staircase)

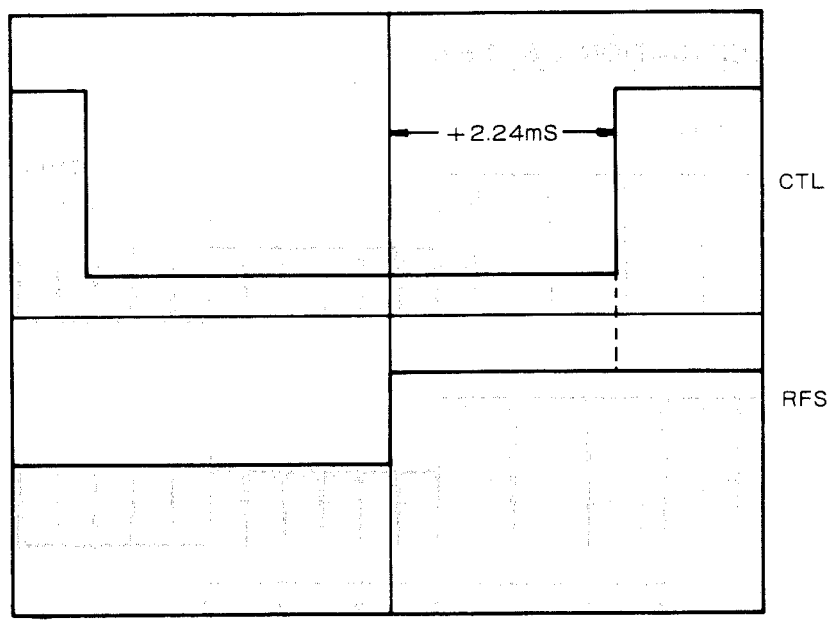
Whether waveform (1) or (2) is present, adjust to 6.5 H.

1 – (3) TRACKING PRESET ADJUSTMENT

(Specified Tape) TPS-1 (A: 6KHz V: Stairstep)
(Specified Measuring Equipment) Oscilloscope (Dual-Trace W/EXT TRIG 40MHz)
(Connections) Oscilloscope ch. 1 to TP-C
Oscilloscope ch. 2 to TP-B
Oscilloscope EXT TRIG probe core to TP-C
Oscilloscope EXT TRIG probe GND to TP-D



(Adjustments) At PCB TRACKING PRESET ADJ.VR, set CTL output waveform so it is in the +2.24mS position against RFS.

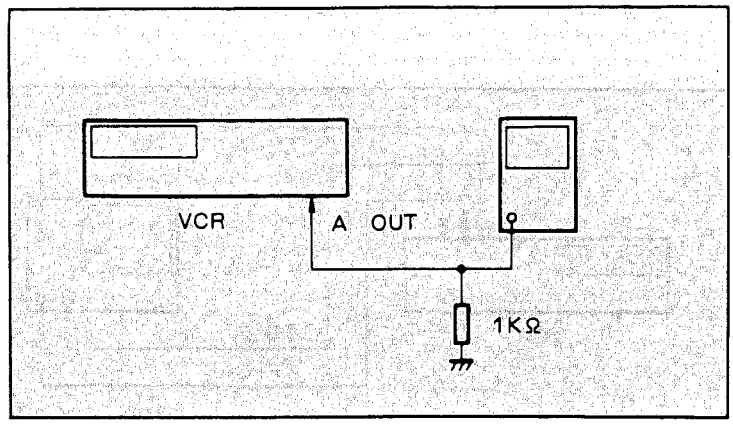


Oscilloscope Setting

TIME/DIV: 1ms SCOPE: – COUPLING: DC SOURCE: EXT VOLT/DIV: .2 (Probe x 10)

2 – (1) AUDIO AZIMUTH ADJUSTMENT

(Specified Tape) TPS-1 (A: 6kHz V: Stairstep)
(Specified Measuring Equipment) AUDIO NOISE METER (MN-445A, or Equivalent).
(Connections) AUDIO OUT: AUDIO NOISE METER (w/1kΩ load)

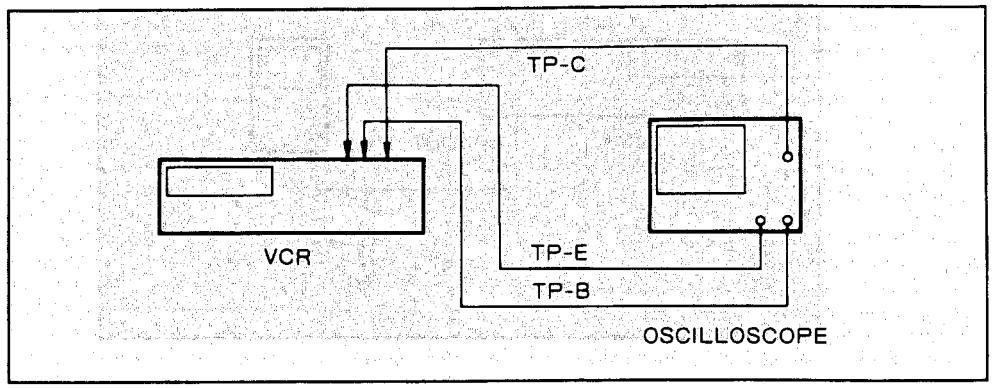


(Adjustments) Adjust the A/C HEAD AZIMUTH screw so the AUDIO OUT 6k output level is maximum with the TPS-1 in the playback mode(refer to diagram of deck adjustment locations for A/C AZIMUTH HEAD screw position).

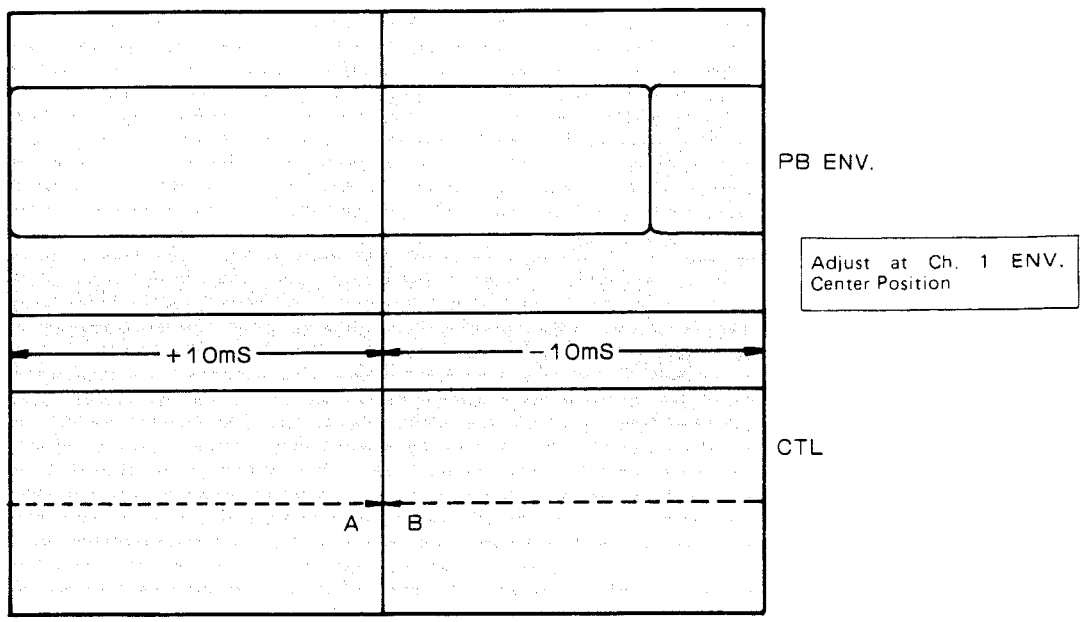
(Precautionary Items) Affix thread lock after adjusting. If, after completion of x-value adjustment, the AUDIO HEAD AZIMUTH is readjusted, readjust x-value as well.

3 – (1) X-VALUE ADJUSTMENT

(Specified Tape) TPS-1 (A:6KHz V:Stairstep)
(Specified Measuring Equipment) Oscilloscope (Dual-Trace W/EXT TRIG 40MHz)
(Connections) Oscilloscope ch. 1 probe to TP-E
Oscilloscope ch. 2 probe to TP-B
Oscilloscope EXT TRIG probe core to TP-C
Oscilloscope EXT TRIG probe GND to TP-D



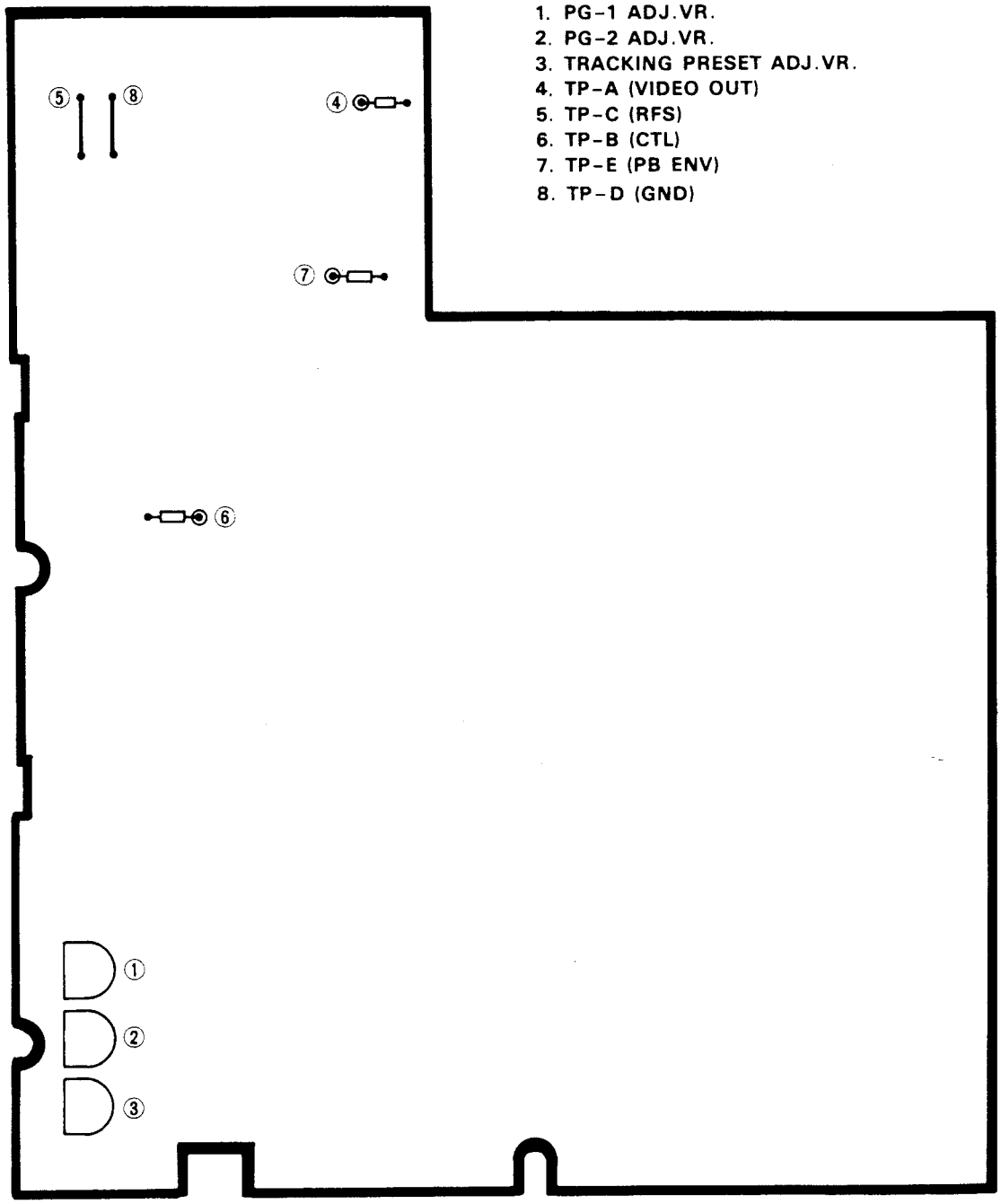
(Adjustments) At tracking VR, set the x-value screw so the envelope output levels are balanced when the CTL pulse is moved from the preset position to + 10ms/ - 10ms (return tracking VR to center after finished adjusting).



A=position W/CTL at + 10ms; B=position W/CTL - 10ms

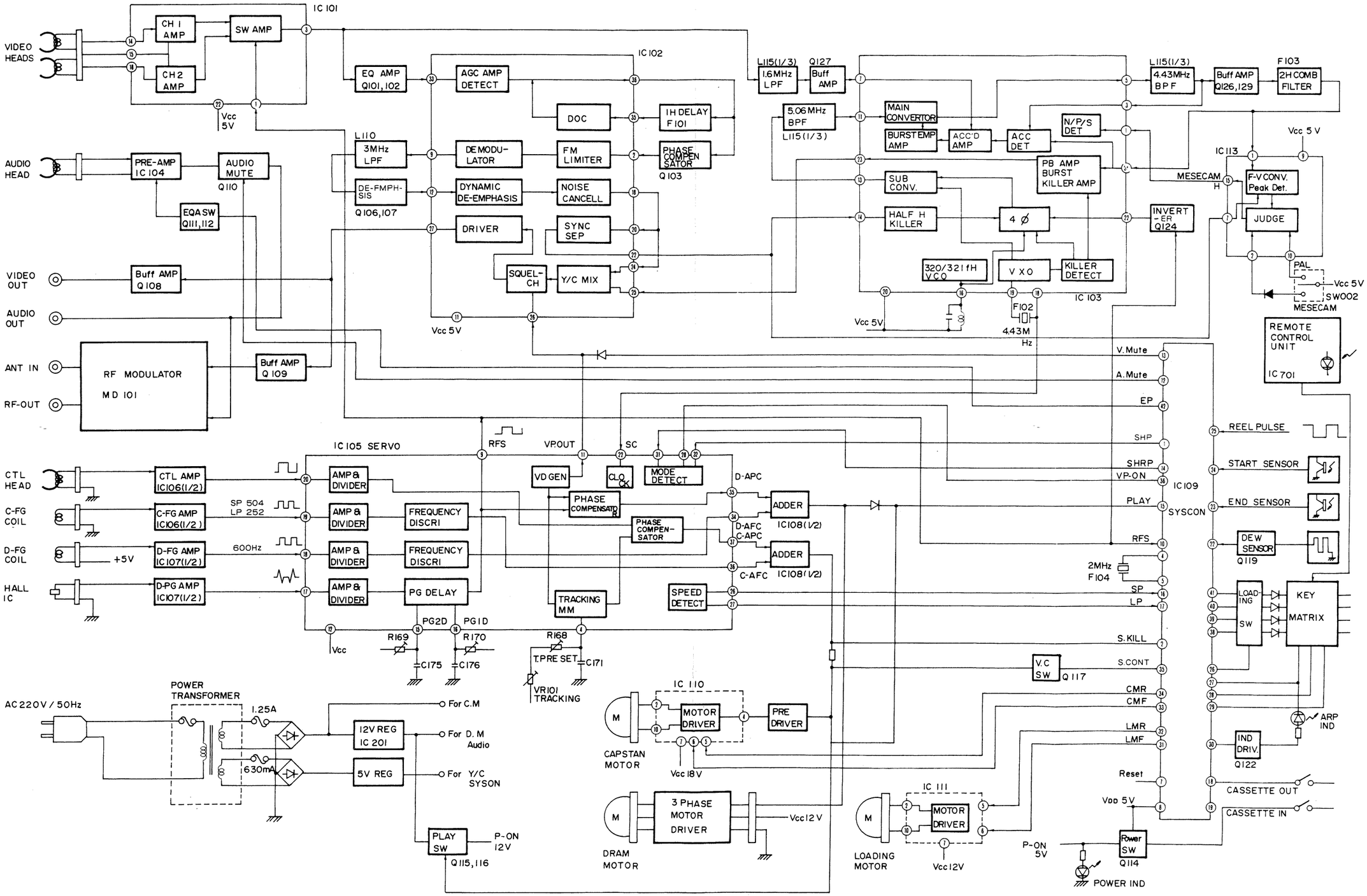
TEST POINT	DESCRIPTION	PART NO
TP-A	VIDEO OUT	R144
TP-B	CTL	R1G9
TP-C	RFS	J165
TP-D	GND	J164
TP-E	PB ENV	R1G7

Test Points and Alignmest Point



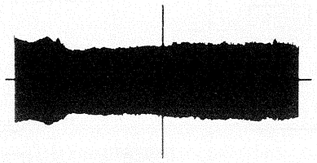
1. PG-1 ADJ.VR.
2. PG-2 ADJ.VR.
3. TRACKING PRESET ADJ.VR.
4. TP-A (VIDEO OUT)
5. TP-C (RFS)
6. TP-B (CTL)
7. TP-E (PB ENV)
8. TP-D (GND)

Block Diagram

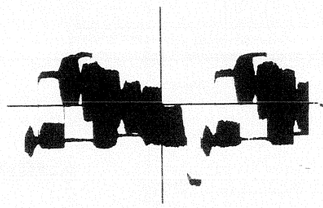


Circuit Board Diagram

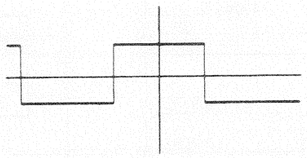
PC BOARD ASS'Y(MAIN) 3599010/3661210



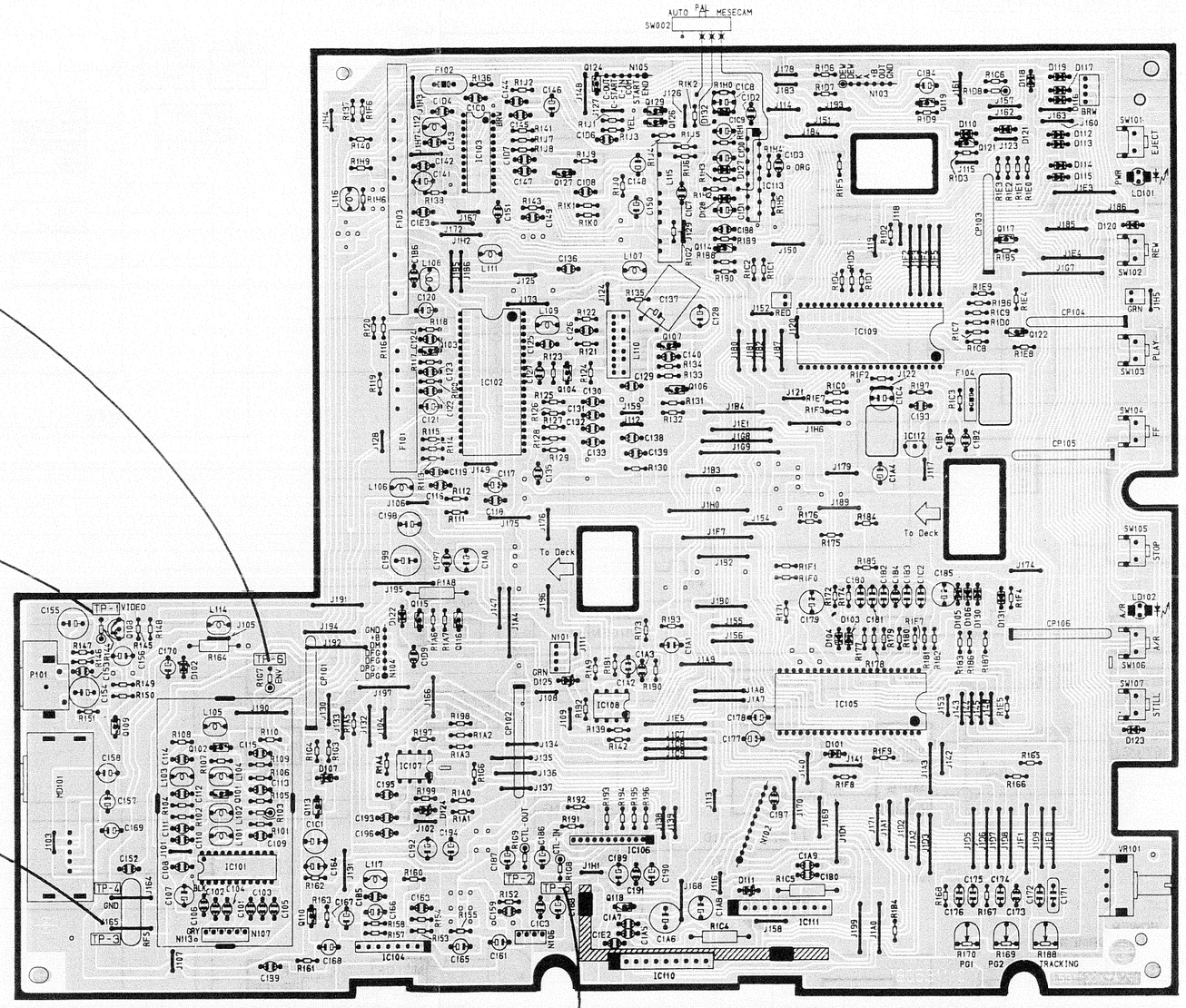
ENVELOPE
TIME/DIV: 2ms
VOLTS/DIV: 20mV
PROBE: 10:1
more than 300mVp-p (spec.)



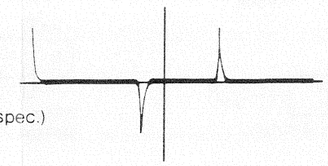
VIDEO OUT
TIME/DIV: 10μs
VOLTS/DIV: 20mV
PROBE: 10:1
1.0±0.1Vp-p (spec.)



RFS
TIME/DIV: 5ms
VOLTS/DIV: 0.2V
PROBE: 10:1
4Vp-p

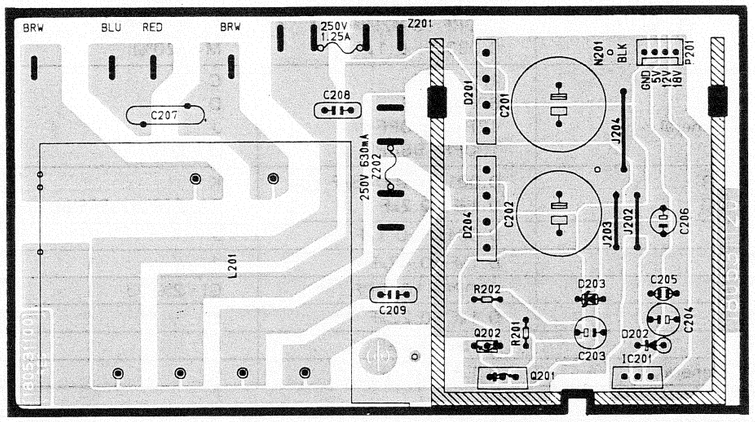


CTL
TIME/DIV: 5ms
VOLTS/DIV: 50mV
PROBE: 10:1
more than 200mVp-p(spec.)

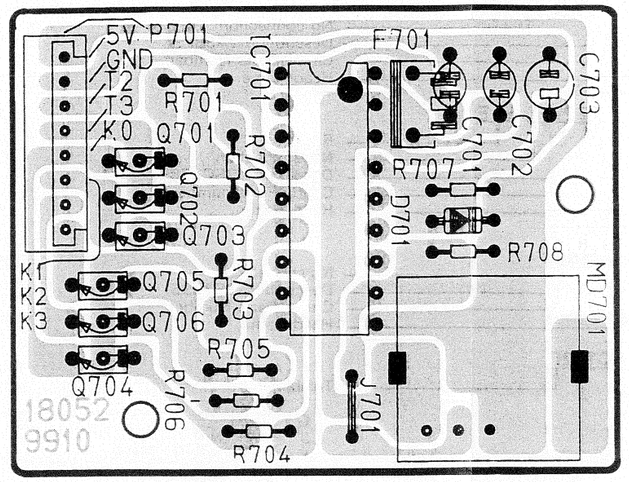


Circuit Board Diagram

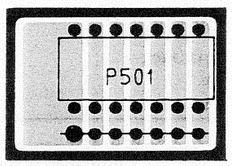
PC BOARD ASS'Y(REG) 3590320/3655420



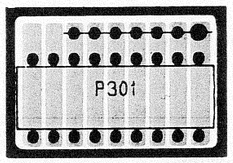
PC BOARD ASS'Y(RECV) 3576700/3646900



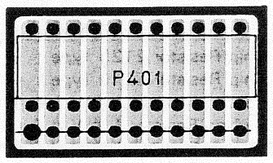
PC BOARD ASS'Y(SUB-1)
3574230/3655430



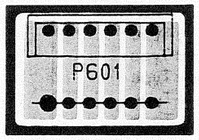
PC BOARD ASS'Y(SUB-2)
3574240/3655440



PC BOARD ASS'Y(SUB-3)
3574250/3655450



PC BOARD ASS'Y(SUB-4)
3574260/3655460



Terminology Changes

The following terms has been changed as a result of the use of a new CAD system.

Description	Parts No.	CAD Code
◆IC	IC101	LA3373. MT No connection Description (LA3373) Circuit Parts Number Head Name
◆Transistor	Q101	2SC2785T. E. F Rank No Connection Description (2SC2785) Circuit Parts number Head Name
◆Diode	D101	1S2835T No connection Description (1S2835) Circuit Parts Number Head Name
◆Resistor	R101	RC102F Tolerance F : ± 1% G : ± 2% J : ± 5% (No Mark) K : ±10% M : ±20% H : No Connection Resistance (10×10^2 = 1000ohm) Carbon Resistor 1/6W Circuit Parts Number Head Name
	R102	RA1R1 Resistance (1.1ohm) Decimal Point Mark Chip Resistor 2125 1/10W
◆Capacitor (Chip)	C101	CA200C Temperature Characteristic C : CH, CJ, CK U : UJ S : SL B : B D : D Capacity (20 · 1.0^0 20pF) Chip Capacitor 2125 Type Circuit Parts Number Head Name
◆Capacitor (Ceramic)	C101	SL1R5H or S or Z No Connection Capacity (1.5pF) Decimal Point Mark Characteristic (Ceramic SL)
◆Capacitor (Electrolytic)	C101	ES1/50H or F or Z No Connection Voltage Proof (50V) Capacity (1 μF) Electrolytic SSM Type
◆Hybrid IC	IC102	HIC****** Code No. (3 - 8 Column→11******0)
◆CR Component	CR101	CR****** Code No. (3 - 8 Column→11******0)
◆In-Line Block	IB101	IB****** Code No. (3 - 8 Column→11******0)
◆Serge Absorber	D102	Z****** Code No. (3 - 8 Column→13******0)
◆LED	LD101	LED****** Code No. (3 - 8 Column→14******0)
◆LCD	H101	LCD****** Code No. (3 - 8 Column→14******0)
◆FIP	H102	FIP****** Code No. (3 - 8 Column→14******0)
◆Pilot Lamp	PL101	PL****** Code No. (3 - 8 Column→14******0)
◆Neon Bulb	NE101	NE****** Code No. (3 8 Column→14******0)
◆Trimmer Cap.	C102	CT****** Code No. (5 9 Column→1591*****)
◆CFC Assy	C103	CFC***** Code No. (5 9 Column→1501*****)
◆Coil	L101	L****** Code No. (3 8 Column→17******0)
◆Filter	F101	F****** Code No. (3 8 Column→17******0)

Description	Type	Capacity Limit	No Marked Tolerance
Chip	CK, CJ, CH, UJ CH, UJ CH, SL SL, B D	1PF~5PF 6PF~10PF 12PF~470PF 680PF~0.022μF 0.033μF~0.1μF	C (±0.25PF) D (±0.5PF) J (±5%) K (±10%) M (±20%)
Ceramic	 General B	1PF~5PF 6PF~10PF 12PF~270PF 100PF~680PF	C D J K
Semi-Conductor	SR BC	0.001μF~0.068μF 0.1μF~0.2μF	K Z (-20%~+80%)
Mylar (M)		0.001μF~0.1μF	J
TF		0.1μF~0.47μF	J
PS, NPS		470PF~1000PF	G(±2%), J
ALSICON (AS)		0.1μF~0.22μF	M
Tantalum (TA)		0.15μF~10μF	M
Electrolytic	General	0.1μF~220μF	M

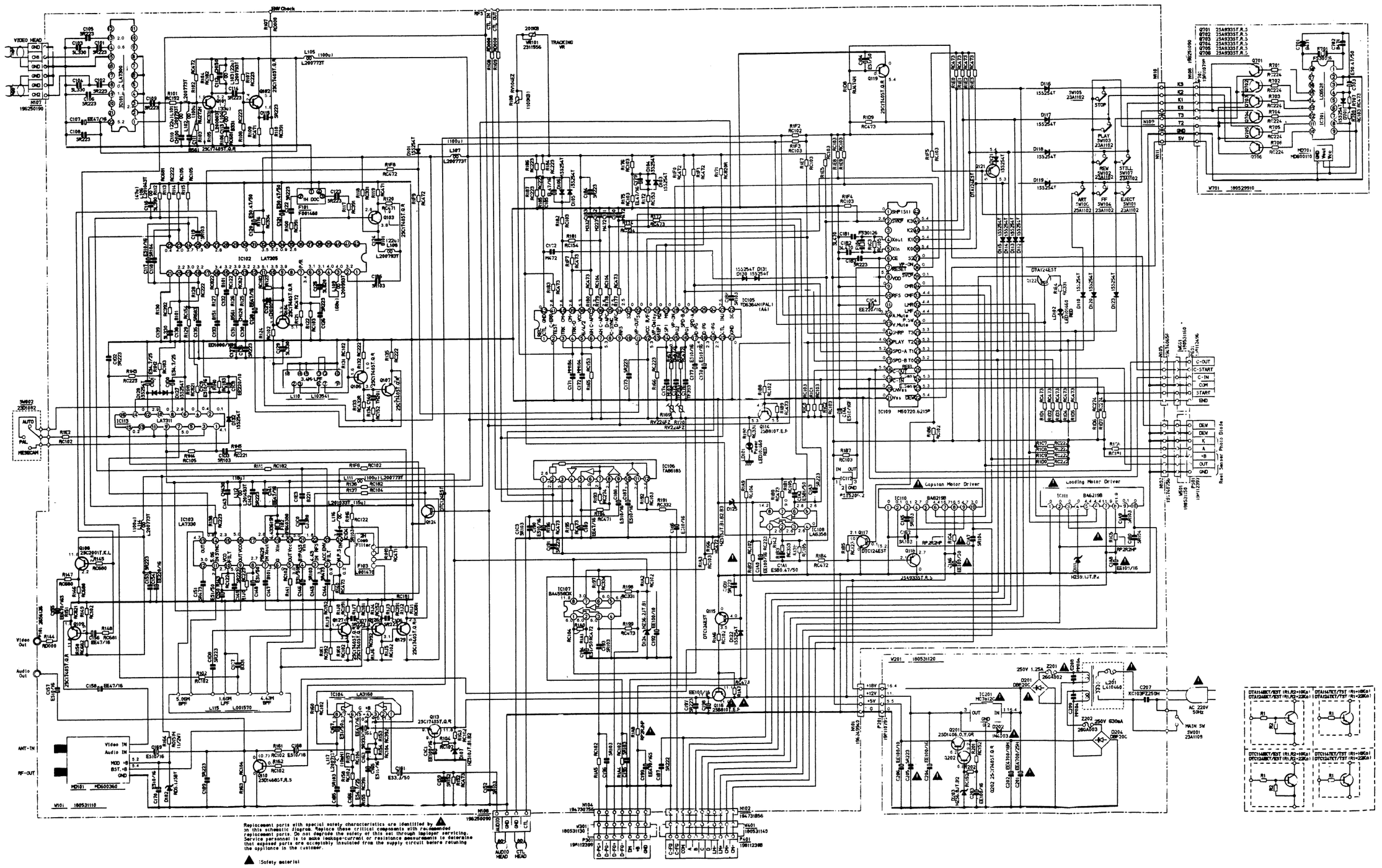
Head Name	Description	Head Name	Description
ET	Electrolytic Tuner	NE	Neon Bulb
MT	Manual Tuner	PL	Pilot Lamp
PT	Push Button Tuner	C *	Capacitor
K	Relay	R **	Resistor
MC	Mike	L	Transformer
SP	Speaker	L	Coil, Inductor
IC	IC, Hybrid IC	F	Ceramic Filter, Crystal
IB	In-Line Block	W	Printed Circuit Board
CR	CR Component	BL	Block PC Assy
Q	Transistor	P	Connector Post
D	Diode, Serge Absorber	TP	Check Pin
LD	LED	AJ	Antenna Jack
H	LCD	SW	Switch
H	FIP	VR	Volume

CAD Code	* Capacitor
CA****	Chip Capacitor 2125 Type
CB****	Chip Capacitor 3216 Type
SL***	Ceramic Capacitor SL Type
B***	Ceramic Capacitor B Type
F***	Ceramic Capacitor F Type
CH***	Ceramic Capacitor CH Type
LH***	Ceramic Capacitor LH Type
PH***	Ceramic Capacitor PH Type
RH***	Ceramic Capacitor RH Type
SH***	Ceramic Capacitor SH Type
TH***	Ceramic Capacitor TH Type
UJ***	Ceramic Capacitor UJ Type
SR***	Semi-Conductor Cap. SR Type
BC***	Semi-Conductor Cap. BC Type
M***	Mylar Capacitor
TF***	TF Capacitor
NP***	NPS Capacitor
AS** **	ALSICON Capacitor
TA**/**	Tantalum Capacitor
ES** **	Electorlytic Cap. SSM Type
ESL** **	Electorlytic Cap. SSM-L Type
ESH** **	Electrolytic Cap. SSM-H Type
ESB** **	Electrolytic Cap. Bi-Polar
EG** **	Electrolytic Cap. GSM Type
EE** **	Electrolytic Cap. SEM Type

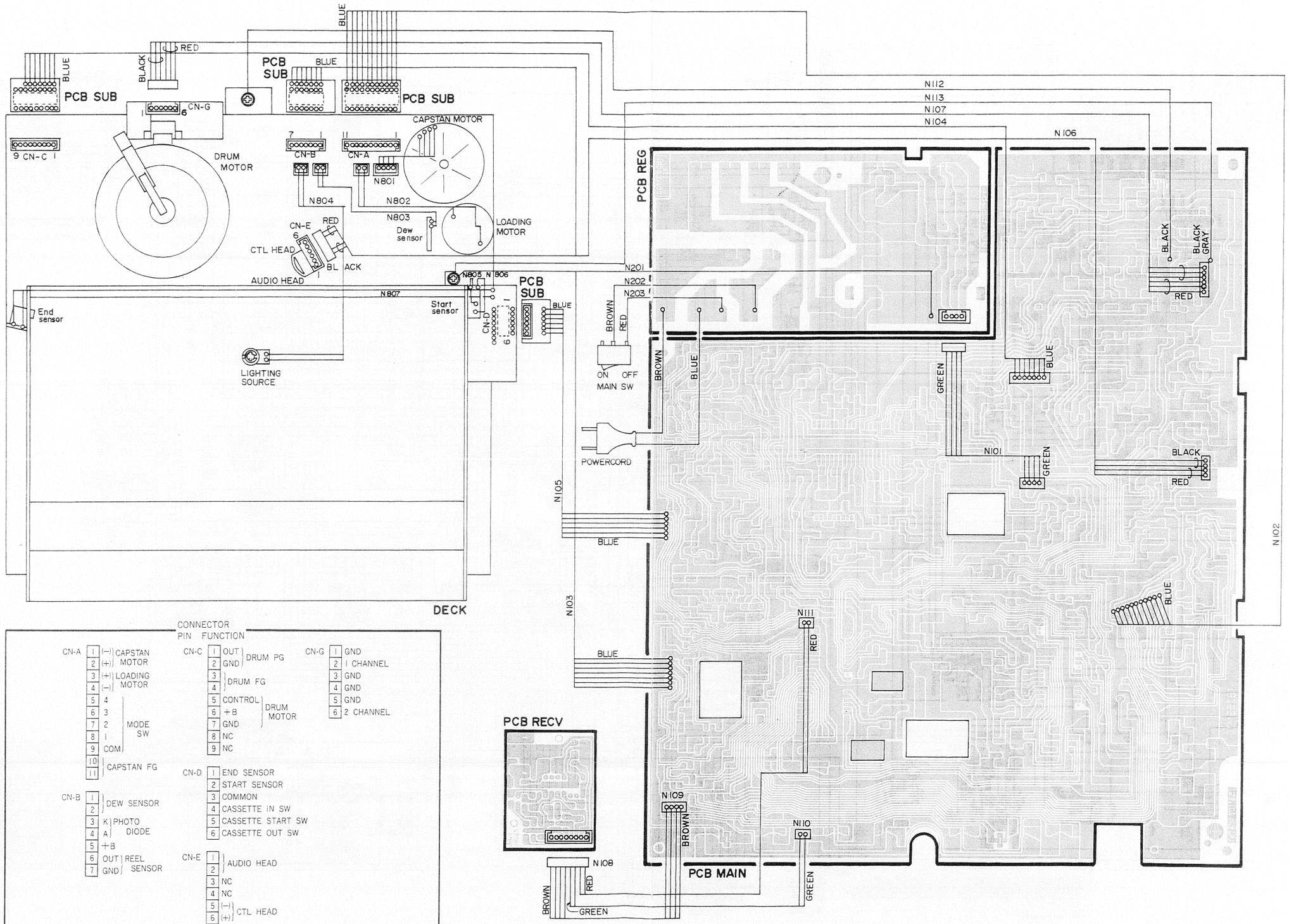
CAD Code	* Capacitor
EA**/**	Electrolytic Cap. Aibis Type
EL**/**	Electrolytic Cap. LSM Type
EH**/**	Electrolytic Cap. HPW Type
CT*****	Trimmer Capacitor

CAD Code	** Resistor
RA***	Chip Resistor 2125 Type
RB***	Chip Resistor 3216 Type
RC***	Carbon Resistor 1/6W S Type
RD***	Carbon Resistor 1/4W U Type
RU***	Carbon Resistor 1/6W U Type
RF***	Carbon Resistor 1/2W S Type
RK***F	Metal Film Resistor 1/4W S ±1%
RL***F	Metal Film Resistor 1/6W S ±1%
RP***	Metal Oxide Resistor 1W S Type
RQ***	Metal Oxide Resistor 2W S Type
RM***	Cement Resistor 5W S Type
RV***	Variable Resistor Vertical Type 6φ
RV***A	Variable Resistor Vertical Metal 6φ
RV***B	Variable Resistor Down Type 6φ
RV***C	Variable Resistor Vertical 6φ4pin
PR***	Printed resistor (on PC Board)

Schematic Diagram


VIDEO HEAD
TRACKING VR
IC102 LA7306
IC103 LA7330
IC104 LA3160
IC105 TD6364N(PAL) (A6)
IC106 TA86183
IC107 BA5540B
IC109 M50720-621SP
IC110 BA6219B
IC111 BA6219B
IC113 LA7391
Capstan Motor Driver
Loading Motor Driver
Video Out
Audio Out
ANT-IN
RF-OUT
AC 220V 50Hz
MAIN SW SW001 2SA1105
Replacement parts with special safety characteristics are identified by ▲ on this schematic diagram. Replace these critical components with recommended replacement parts. Do not degrade the safety of this set through improper servicing. Service personnel is to make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.
▲ :Safety material

Wiring Diagram



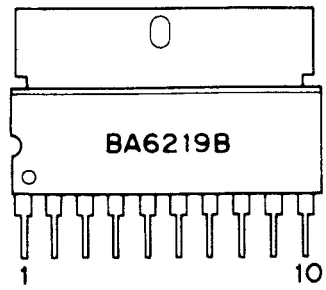
CONNECTOR PIN FUNCTION

CN-A	1	(−)	CAPSTAN MOTOR	CN-C	1	OUT	DRUM PG
	2	(+)			2	GND	
	3	(+)	LOADING MOTOR		3		DRUM FG
	4	(−)			4		
	5	4	MODE SW		5	CONTROL	DRUM MOTOR
	6	3			6	+B	
	7	2			7	GND	
	8	1			8	NC	
	9	COM			9	NC	
	10		CAPSTAN FG	CN-D	1	END SENSOR	
	11				2	START SENSOR	
CN-B	1		DEW SENSOR		3	COMMON	
	2				4	CASSETTE IN SW	
	3	K	PHOTO DIODE		5	CASSETTE START SW	
	4	A			6	CASSETTE OUT SW	
	5	+B		CN-E	1		AUDIO HEAD
	6	OUT	REEL SENSOR		2		
	7	GND			3	NC	
					4	NC	
					5	(−)	CTL HEAD
					6	(+)	

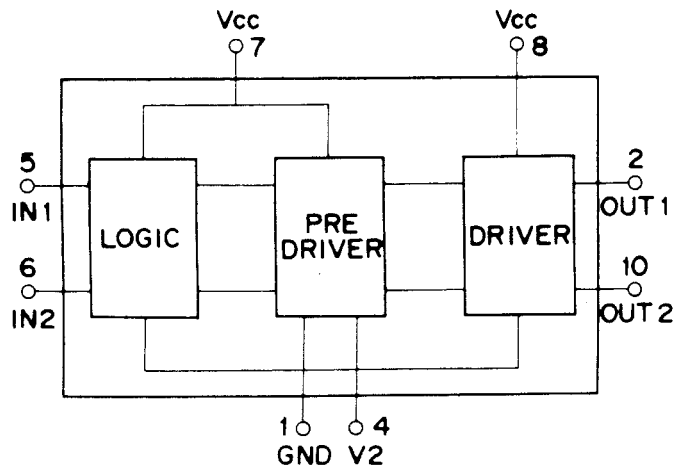
CN-G	1	GND	
	2	I CHANNEL	
	3	GND	
	4	GND	
	5	GND	
	6	2 CHANNEL	

IC Internal Diagram (BA6219B)

1) PIN ASSIGNMENTS (TOP VIEWS)



2) BLOCK DIAGRAM



3) FUNCTION TABLE

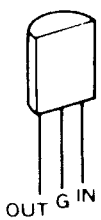
IN1	IN2	OUT1	OUT2
1	1	L	L
0	1	L	H
1	0	H	L
0	0	OPEN	OPEN

INPUT LEVEL 1 :
3V≦IN1.2≧3V = 1
INPUT LEVEL 0 :
≦1V IN1.2≦1V = 0

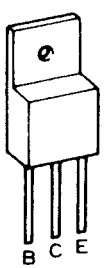
IC, Transistor Lead Identification

2SA933:Q118
2SB810:Q114, Q116
2SC1740:Q101, 102, 103, 104, 106, 107, 109, 113, 119, 120, 126, 127, 129, 202
2SD1468:Q110
DTA124:Q121
DTC114:Q125
DTC124:Q105, 111, 112, 115, 117, 124, 128

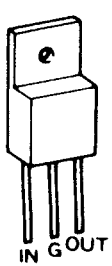
2SC2001 Q108



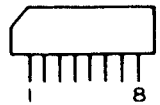
PST520G 2 : IC112



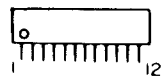
2SD1406.O.Y.GR : Q201



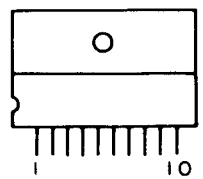
MC7812C:IC201



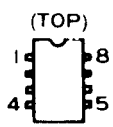
LA3160 : IC104



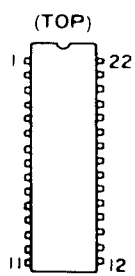
TA8618S : IC106



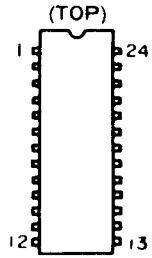
BA6219B:IC110,111



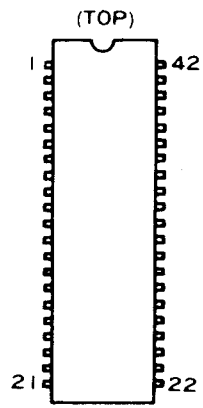
BA4558DX : IC107
LA6358 : IC108



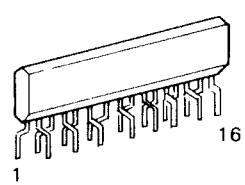
LA7300 : IC101



LA7330:IC103



LA7305 : IC102
M50720-621SP : IC109
TD6364N(PAL):IC105



LA7311:IC113

Replacement Parts List

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
W101	180531110	PC Board
C101	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C102	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C103	151833005	Capacitor,Ceramic,33PF 50WV
C104	151833005	Capacitor,Ceramic,33PF 50WV
C105	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C106	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C107	1553476G5	Capacitor,Electrolytic,47uF 16WV
C108	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C109	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C110	151110005	Capacitor,Ceramic,10PF 50WV
C111	151A56105	Capacitor,Ceramic,560PF 50WV
C112	151115005	Capacitor,Ceramic,15PF 50WV
C113	151A33105	Capacitor,Ceramic,330PF 50WV
C114	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C115	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C116	151839005	Capacitor,Ceramic,39PF 50WV
C117	155310625	Capacitor,Electrolytic,10uF 16WV
C118	152610405	Capacitor,Semi-Conductor,0.1uF 25WV
C119	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C120	155647425	Capacitor,Electrolytic,0.47uF 50WV
C121	155647425	Capacitor,Electrolytic,0.47uF 50WV
C122	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C123	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C124	151A10105	Capacitor,Ceramic,100PF 50WV
C125	151882005	Capacitor,Ceramic,82PF 50WV
C126	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C127	151110005	Capacitor,Ceramic,10PF 50WV
C128	1553476G5	Capacitor,Electrolytic,47uF 16WV
C129	151833005	Capacitor,Ceramic,33PF 50WV
C130	151112005	Capacitor,Ceramic,12PF 50WV
C131	151A56105	Capacitor,Ceramic,560PF 50WV
C132	151A10105	Capacitor,Ceramic,100PF 50WV
C133	151A15105	Capacitor,Ceramic,150PF 50WV
C135	152668305	Capacitor,Semi-Conductor,0.068uF 25WV
C136	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C137	1553108M0	Capacitor,Electrolytic,1000uF 16WV
C138	151A10105	Capacitor,Ceramic,100PF 50WV
C139	151833005	Capacitor,Ceramic,33PF 50WV
C140	151620105	Capacitor,Ceramic,200PF 50WV
C141	1553476G5	Capacitor,Electrolytic,47uF 16WV
C142	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C143	151143005	Capacitor,Ceramic,43PF 50WV
C144	152647305	Capacitor,Semi-Conductor,0.047uF 25WV
C145	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C146	155610529	Capacitor,Electrolytic,1uF 50WV
C147	151A10105	Capacitor,Ceramic,100PF 50WV
C148	155610525	Capacitor,Electrolytic,1uF 50WV
C149	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C150	155610525	Capacitor,Electrolytic,1uF 50WV

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
C151	152647305	Capacitor,Semi-Conductor,0.047uF 25WV
C152	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C153	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C154	1553227G5	Capacitor,Electrolytic,220uF 16WV
C155	1553477G4	Capacitor,Electrolytic,470uF 16WV
C156	1553476G5	Capacitor,Electrolytic,47uF 16WV
C157	155310625	Capacitor,Electrolytic,10uF 16WV
C158	1553476G5	Capacitor,Electrolytic,47uF 16WV
C159	152615205	Capacitor,Semi-Conductor,0.0015uF 25WV
C161	155633525	Capacitor,Electrolytic,3.3uF 50WV
C163	152633305	Capacitor,Semi-Conductor,0.033uF 25WV
C164	1553476G5	Capacitor,Electrolytic,47uF 16WV
C165	155310625	Capacitor,Electrolytic,10uF 16WV
C166	155447525	Capacitor,Electrolytic,4.7uF 25WV
C167	155610525	Capacitor,Electrolytic,1uF 50WV
C168	155310625	Capacitor,Electrolytic,10uF 16WV
C169	155310625	Capacitor,Electrolytic,10uF 16WV
C170	155310625	Capacitor,Electrolytic,10uF 16WV
C171	154B18415	Capacitor,MM,0.18uF 63WV
C172	154B10415	Capacitor,MM,0.1uF 63WV
C173	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C174	153410305	Capacitor,Mylar,0.01uF 50WV
C175	154339355	Capacitor,TF,0.039uF 50WV
C176	154339355	Capacitor,TF,0.039uF 50WV
C177	155310625	Capacitor,Electrolytic,10uF 16WV
C178	155310625	Capacitor,Electrolytic,10uF 16WV
C179	1553476K5	Capacitor,Electrolytic,47uF 16WV
C180	153447205	Capacitor,Mylar,0.0047uF 50WV
C181	153447205	Capacitor,Mylar,0.0047uF 50WV
C182	153422305	Capacitor,Mylar,0.022uF 50WV
C183	153433205	Capacitor,Mylar,0.0033uF 50WV
C184	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C185	1553476K5	Capacitor,Electrolytic,47uF 16WV
C186	155310625	Capacitor,Electrolytic,10uF 16WV
C187	155310625	Capacitor,Electrolytic,10uF 16WV
C188	155310625	Capacitor,Electrolytic,10uF 16WV
C189	1553476G5	Capacitor,Electrolytic,47uF 16WV
C190	155310625	Capacitor,Electrolytic,10uF 16WV
C191	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C192	1552107G5	Capacitor,Electrolytic,100uF 10WV
C193	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C194	155610525	Capacitor,Electrolytic,1uF 50WV
C195	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C196	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C197	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C198	1553107G5	Capacitor,Electrolytic,100uF 16WV
C199	1553477G4	Capacitor,Electrolytic,470uF 16WV
C1A0	1553107G5	Capacitor,Electrolytic,100uF 16WV
C1A1	155002525	Capacitor,Electrolytic,0.47uF 50WV
C1A2	155003925	Capacitor,Electrolytic,1uF 50WV

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
C1A3	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1A4	155310629	Capacitor,Electrolytic,10uF 16WV
C1A5	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1A6	1556107G5	Capacitor,Electrolytic,100uF 50WV
C1A7	152610405	Capacitor,Semi-Conductor,0.1uF 25WV
C1A8	1553107G5	Capacitor,Electrolytic,100uF 16WV
C1A9	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1B0	152610405	Capacitor,Semi-Conductor,0.1uF 25WV
C1B1	151847005	Capacitor,Ceramic,47PF 50WV
C1B2	151847005	Capacitor,Ceramic,47PF 50WV
C1B3	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1B4	155610525	Capacitor,Electrolytic,1uF 50WV
C1B5	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1B6	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1B7	152622205	Capacitor,Semi-Conductor,0.0022uF 25WV
C1B8	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1B9	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1C0	15113R005	Capacitor,Ceramic,3PF 50WV
C1C1	1553107G5	Capacitor,Electrolytic,100uF 16WV
C1C2	153447205	Capacitor,Mylar,0.0047uF 50WV
C1C3	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1C4	1552227G5	Capacitor,Electrolytic,220uF 10WV
C1C7	151A33105	Capacitor,Ceramic,330PF 50WV
C1C8	1552227G5	Capacitor,Electrolytic,220uF 10WV
C1C9	155310625	Capacitor,Electrolytic,10uF 16WV
C1D0	155447525	Capacitor,Electrolytic,4.7uF 25WV
C1D1	155447525	Capacitor,Electrolytic,4.7uF 25WV
C1D2	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1D3	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1D4	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1D6	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1D7	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1D8	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1D9	152622305	Capacitor,Semi-Conductor,0.022uF 25WV
C1E2	152610305	Capacitor,Semi-Conductor,0.01uF 25WV
C1E3	151A22105	Capacitor,Ceramic,220PF 50WV
CP101	2869006	Clamp,CP-2S
CP102	2869006	Clamp,CP-2S
CP103	2869006	Clamp,CP-2S
CP104	2869006	Clamp,CP-2S
CP105	2869006	Clamp,CP-2S
CP106	2869006	Clamp,CP-2S
D101	131002101	Diode,1SS254T
D102	134003401	Diode,RD5.1JSBT
D103	131002101	Diode,1SS254T
D104	131002101	Diode,1SS254T
D105	131002101	Diode,1SS254T
D106	131002101	Diode,1SS254T
D107	134010501	Diode,HZS10JT-B1,B2
D110	131002101	Diode,1SS254T

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
D111	134010811	Diode,HZS9.1JT-B2
D112	131002101	Diode,1SS254T
D113	131002101	Diode,1SS254T
D114	131002101	Diode,1SS254T
D115	131002101	Diode,1SS254T
D116	131002101	Diode,1SS254T
D117	131002101	Diode,1SS254T
D118	131002101	Diode,1SS254T
D119	131002101	Diode,1SS254T
D120	131002101	Diode,1SS254T
D121	131002101	Diode,1SS254T
D122	131002101	Diode,1SS254T
D123	131002101	Diode,1SS254T
D124	134011611	Diode,HZS6.2JT-B1
D125	134012101	Diode,HZS15JT-B1,B2,B3
D127	131002101	Diode,1SS254T
D128	131002101	Diode,1SS254T
D130	131002101	Diode,1SS254T
D131	131002101	Diode,1SS254T
D132	131002101	Diode,1SS254T
F101	170014600	Coil,ADL-CP1245G
F102	176403800	X'tal,HC-43U4.433619M
F103	170014700	Coil,ADL-SE1844G
F104	175301260	Ceramic Filter,CSA2.00MG
IC101	111320300	IC,LA7300
IC102	111321300	IC,LA7305
IC103	111382300	IC,LA7330
IC104	111075300	IC,LA3160
IC105	112073200	IC,TD6364N(PAL)
IC106	111327200	IC,TA8618S
IC107	111198600	IC,BA4558DX
IC108	111349300	IC,LA6358
IC109	119038300	IC,M50720-621SP
IC110	111389600	IC,BA6219B
IC111	111389600	IC,BA6219B
IC112	111329500	IC,PST520G-2
IC113	111324300	IC,LA7311
L101	172007934	Coil,EL0606RA-220K-FT
L102	172007734	Coil,EL0606RA-101J-FT
L103	172007934	Coil,EL0606RA-220K-FT
L104	172008034	Coil,EL0606RA-330K-FT
L105	172007734	Coil,EL0606RA-101J-FT
L106	172010434	Coil,EL0606RA-470J-FT
L107	172007734	Coil,EL0606RA-101J-FT
L108	172007934	Coil,EL0606RA-220K-FT
L109	172009934	Coil,EL0606RA-680K-FT
L110	171035410	Coil,3.4M-LPF
L111	172007734	Coil,EL0606RA-101J-FT
L112	172014934	Coil,EL0606RA-180J-FT
L114	172007734	Coil,EL0606RA-101J-FT

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
L115	170015700	Coil,SFB-4139
L116	172010334	Coil,EL0606RA-150J-FT
L117	172007134	Coil,EL0607RA-103J-FT
LD101	141014600	LED,SLR-34VR3F
LD102	141014600	LED,SLR-34VR3F
MD101	106003600	Module,MCB8-UG3606
N101	196249940	QS Connector,JB20-04-HG
N102	194731B56	Flat Wire
N103	194740756	Flat Wire
N104	194730756	Flat Wire
N105	194740656	Flat Wire
N106	196250090	QS Connector,IL04
N107	196250190	QS Connector,IL06
N108	196251090	QS Connector,IL08
N112	2603048	Ground Cord
N113	2603049	Ground Cord
N114	191209480	Wire
N115	191211180	Wire
N116	191214380	Wire
N119	195451430	Strip Wire
P101	2656126	Connector
Q101	123174021	Transistor,2SC1740ST-Q,R
Q102	123174021	Transistor,2SC1740ST-Q,R
Q103	123174021	Transistor,2SC1740ST-Q,R
Q104	123174021	Transistor,2SC1740ST-Q,R
Q106	123174021	Transistor,2SC1740ST-Q,R
Q107	123174021	Transistor,2SC1740ST-Q,R
Q108	123200141	Transistor,2SC2001T-K,L
Q109	123174021	Transistor,2SC1740ST-Q,R
Q110	124146801	Transistor,2SD1468ST-R,S
Q113	123174021	Transistor,2SC1740ST-Q,R
Q114	122081011	Transistor,2SB810T-E,F
Q115	120002201	Transistor,DTC124EST
Q116	122081011	Transistor,2SB810T-E,F
Q117	120002201	Transistor,DTC124EST
Q118	121093321	Transistor,2SA933ST-R,S
Q119	123174021	Transistor,2SC1740ST-Q,R
Q121	120002401	Transistor,DTA124EST
Q122	120002401	Transistor,DTA124EST
Q124	120002201	Transistor,DTC124EST
Q126	123174021	Transistor,2SC1740ST-Q,R
Q127	123174021	Transistor,2SC1740ST-Q,R
Q129	123174021	Transistor,2SC1740ST-Q,R
R101	161315204	Resistor,Carbon,1/6W 1.5Kohm
R102	161347204	Resistor,Carbon,1/6W 4.7Kohm
R103	161327202	Resistor,Carbon,1/6W 2.7Kohm
R104	161318204	Resistor,Carbon,1/6W 1.8Kohm
R105	161333104	Resistor,Carbon,1/6W 330ohm
R106	161368104	Resistor,Carbon,1/6W 680ohm
R107	161322304	Resistor,Carbon,1/6W 22Kohm

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
R108	161322304	Resistor,Carbon,1/6W 22Kohm
R109	161347104	Resistor,Carbon,1/6W 470ohm
R110	161339104	Resistor,Carbon,1/6W 390ohm
R111	161318204	Resistor,Carbon,1/6W 1.8Kohm
R112	161368104	Resistor,Carbon,1/6W 680ohm
R113	161322204	Resistor,Carbon,1/6W 2.2Kohm
R114	161310504	Resistor,Carbon,1/6W 1Mohm
R115	161310504	Resistor,Carbon,1/6W 1Mohm
R116	161333404	Resistor,Carbon,1/6W 330Kohm
R117	161339104	Resistor,Carbon,1/6W 390ohm
R118	161333104	Resistor,Carbon,1/6W 330ohm
R119	161347104	Resistor,Carbon,1/6W 470ohm
R120	161347104	Resistor,Carbon,1/6W 470ohm
R121	161347204	Resistor,Carbon,1/6W 4.7Kohm
R122	161310304	Resistor,Carbon,1/6W 10Kohm
R123	161318204	Resistor,Carbon,1/6W 1.8Kohm
R124	161310204	Resistor,Carbon,1/6W 1Kohm
R125	161382104	Resistor,Carbon,1/6W 820ohm
R126	161312204	Resistor,Carbon,1/6W 1.2Kohm
R127	161382204	Resistor,Carbon,1/6W 8.2Kohm
R128	161322204	Resistor,Carbon,1/6W 2.2Kohm
R129	161315404	Resistor,Carbon,1/6W 150Kohm
R130	161339204	Resistor,Carbon,1/6W 3.9Kohm
R131	161310204	Resistor,Carbon,1/6W 1Kohm
R132	161322204	Resistor,Carbon,1/6W 2.2Kohm
R133	161343209	Resistor,Carbon,1/6W 4.3Kohm
R134	161315204	Resistor,Carbon,1/6W 1.5Kohm
R135	161322204	Resistor,Carbon,1/6W 2.2Kohm
R136	161318204	Resistor,Carbon,1/6W 1.8Kohm
R137	161310404	Resistor,Carbon,1/6W 100Kohm
R138	161322304	Resistor,Carbon,1/6W 22Kohm
R139	161310504	Resistor,Carbon,1/6W 1Mohm
R140	161347304	Resistor,Carbon,1/6W 47Kohm
R141	161310204	Resistor,Carbon,1/6W 1Kohm
R142	161322304	Resistor,Carbon,1/6W 22Kohm
R143	161312204	Resistor,Carbon,1/6W 1.2Kohm
R144	161200008	Resistor,Carbon,1/4W 0ohm
R145	161368004	Resistor,Carbon,1/6W 68ohm
R146	161368004	Resistor,Carbon,1/6W 68ohm
R147	161368004	Resistor,Carbon,1/6W 68ohm
R148	161368104	Resistor,Carbon,1/6W 680ohm
R149	161310204	Resistor,Carbon,1/6W 1Kohm
R150	161368204	Resistor,Carbon,1/6W 6.8Kohm
R151	161382104	Resistor,Carbon,1/6W 820ohm
R152	161347304	Resistor,Carbon,1/6W 47Kohm
R153	161339204	Resistor,Carbon,1/6W 3.9Kohm
R154	161310404	Resistor,Carbon,1/6W 100Kohm
R155	161339104	Resistor,Carbon,1/6W 390ohm
R157	161310404	Resistor,Carbon,1/6W 100Kohm
R158	161310204	Resistor,Carbon,1/6W 1Kohm

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
R160	161310204	Resistor,Carbon,1/6W 1Kohm
R161	161310204	Resistor,Carbon,1/6W 1Kohm
R162	161310204	Resistor,Carbon,1/6W 1Kohm
R163	161310404	Resistor,Carbon,1/6W 100Kohm
R164	164615101	Resistor,Metal Oxide,1/2W 150ohm
R165	161315304	Resistor,Carbon,1/6W 15Kohm
R166	161322304	Resistor,Carbon,1/6W 22Kohm
R167	161347204	Resistor,Carbon,1/6W 4.7Kohm
R168	161347204	Resistor,Carbon,1/6W 4.7Kohm
R169	169157817	Resistor,Semi-Fixed KVSF687A-224B-MT
R170	169157817	Resistor,Semi-Fixed KVSF687A-224B-MT
R171	161382009	Resistor,Carbon,1/6W 82ohm
R172	161315304	Resistor,Carbon,1/6W 15Kohm
R173	161347304	Resistor,Carbon,1/6W 47Kohm
R174	161333404	Resistor,Carbon,1/6W 330Kohm
R175	161310304	Resistor,Carbon,1/6W 10Kohm
R176	161310304	Resistor,Carbon,1/6W 10Kohm
R177	161347304	Resistor,Carbon,1/6W 47Kohm
R178	161310404	Resistor,Carbon,1/6W 100Kohm
R179	161310404	Resistor,Carbon,1/6W 100Kohm
R180	161347304	Resistor,Carbon,1/6W 47Kohm
R181	161315404	Resistor,Carbon,1/6W 150Kohm
R182	161310304	Resistor,Carbon,1/6W 10Kohm
R183	161347304	Resistor,Carbon,1/6W 47Kohm
R184	161322304	Resistor,Carbon,1/6W 22Kohm
R185	161322304	Resistor,Carbon,1/6W 22Kohm
R186	161322304	Resistor,Carbon,1/6W 22Kohm
R187	161322304	Resistor,Carbon,1/6W 22Kohm
R188	169157617	Resistor,Semi-Fixed KVSF637A-104B-MT
R190	161333104	Resistor,Carbon,1/6W 330ohm
R191	161333204	Resistor,Carbon,1/6W 3.3Kohm
R192	161310304	Resistor,Carbon,1/6W 10Kohm
R193	161327404	Resistor,Carbon,1/6W 270Kohm
R194	161347104	Resistor,Carbon,1/6W 470ohm
R195	161347304	Resistor,Carbon,1/6W 47Kohm
R196	161347304	Resistor,Carbon,1/6W 47Kohm
R197	161333404	Resistor,Carbon,1/6W 330Kohm
R198	161333104	Resistor,Carbon,1/6W 330ohm
R199	161347304	Resistor,Carbon,1/6W 47Kohm
R1A0	161310404	Resistor,Carbon,1/6W 100Kohm
R1A1	161347204	Resistor,Carbon,1/6W 4.7Kohm
R1A2	161310204	Resistor,Carbon,1/6W 1Kohm
R1A3	161310304	Resistor,Carbon,1/6W 10Kohm
R1A4	161310204	Resistor,Carbon,1/6W 1Kohm
R1A5	161310204	Resistor,Carbon,1/6W 1Kohm
R1A6	161310204	Resistor,Carbon,1/6W 1Kohm
R1A7	161347304	Resistor,Carbon,1/6W 47Kohm
R1A8	16412R20A	Resistor,Metal Oxide,1W 2.2ohm
R1A9	161310404	Resistor,Carbon,1/6W 100Kohm
R1B0	161347304	Resistor,Carbon,1/6W 47Kohm

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
R1B1	161310504	Resistor,Carbon,1/6W 1Mohm
R1B2	161310204	Resistor,Carbon,1/6W 1Kohm
R1B3	161333304	Resistor,Carbon,1/6W 33Kohm
R1B4	161347204	Resistor,Carbon,1/6W 4.7Kohm
R1B5	161312304	Resistor,Carbon,1/6W 12Kohm
R1B6	161310204	Resistor,Carbon,1/6W 1Kohm
R1B7	161310304	Resistor,Carbon,1/6W 10Kohm
R1B8	161310204	Resistor,Carbon,1/6W 1Kohm
R1B9	161347304	Resistor,Carbon,1/6W 47Kohm
R1C0	161310304	Resistor,Carbon,1/6W 10Kohm
R1C1	161310304	Resistor,Carbon,1/6W 10Kohm
R1C2	161310304	Resistor,Carbon,1/6W 10Kohm
R1C3	161310504	Resistor,Carbon,1/6W 1Mohm
R1C4	16412R20A	Resistor,Metal Oxide,1W 2.2ohm
R1C5	16412R20A	Resistor,Metal Oxide,1W 2.2ohm
R1C6	161318104	Resistor,Carbon,1/6W 180ohm
R1C7	161322204	Resistor,Carbon,1/6W 2.2Kohm
R1C8	161322204	Resistor,Carbon,1/6W 2.2Kohm
R1C9	161322204	Resistor,Carbon,1/6W 2.2Kohm
R1D0	161322204	Resistor,Carbon,1/6W 2.2Kohm
R1D1	161347304	Resistor,Carbon,1/6W 47Kohm
R1D2	161347304	Resistor,Carbon,1/6W 47Kohm
R1D3	161347304	Resistor,Carbon,1/6W 47Kohm
R1D4	161347304	Resistor,Carbon,1/6W 47Kohm
R1D5	161347304	Resistor,Carbon,1/6W 47Kohm
R1D6	161327404	Resistor,Carbon,1/6W 270Kohm
R1D7	161327404	Resistor,Carbon,1/6W 270Kohm
R1D8	161347402	Resistor,Carbon,1/6W 470Kohm
R1D9	161347304	Resistor,Carbon,1/6W 47Kohm
R1E0	161347304	Resistor,Carbon,1/6W 47Kohm
R1E1	161347304	Resistor,Carbon,1/6W 47Kohm
R1E2	161347304	Resistor,Carbon,1/6W 47Kohm
R1E3	161347304	Resistor,Carbon,1/6W 47Kohm
R1E4	161333104	Resistor,Carbon,1/6W 330ohm
R1E5	161310304	Resistor,Carbon,1/6W 10Kohm
R1E7	161310304	Resistor,Carbon,1/6W 10Kohm
R1E8	161310304	Resistor,Carbon,1/6W 10Kohm
R1E9	161310304	Resistor,Carbon,1/6W 10Kohm
R1F0	161347204	Resistor,Carbon,1/6W 4.7Kohm
R1F1	161347204	Resistor,Carbon,1/6W 4.7Kohm
R1F2	161310204	Resistor,Carbon,1/6W 1Kohm
R1F3	161310304	Resistor,Carbon,1/6W 10Kohm
R1F4	161310304	Resistor,Carbon,1/6W 10Kohm
R1F5	161310304	Resistor,Carbon,1/6W 10Kohm
R1F6	161310204	Resistor,Carbon,1/6W 1Kohm
R1F7	161347304	Resistor,Carbon,1/6W 47Kohm
R1F8	161347204	Resistor,Carbon,1/6W 4.7Kohm
R1F9	161347204	Resistor,Carbon,1/6W 4.7Kohm
R1G0	161339104	Resistor,Carbon,1/6W 390ohm
R1G2	161310204	Resistor,Carbon,1/6W 1Kohm

PC BOARD ASS'Y(MAIN)3599010/3661210

Ref.No.	Part No.	Description
R1G3	161310204	Resistor,Carbon,1/6W 1Kohm
R1G4	161310204	Resistor,Carbon,1/6W 1Kohm
R1G6	161347204	Resistor,Carbon,1/6W 4.7Kohm
R1G7	161200008	Resistor,Carbon,1/4W 0ohm
R1G8	161200008	Resistor,Carbon,1/4W 0ohm
R1G9	161200008	Resistor,Carbon,1/4W 0ohm
R1H0	161318304	Resistor,Carbon,1/6W 18Kohm
R1H1	161382104	Resistor,Carbon,1/6W 820ohm
R1H2	161318304	Resistor,Carbon,1/6W 18Kohm
R1H3	161322304	Resistor,Carbon,1/6W 22Kohm
R1H4	161310504	Resistor,Carbon,1/6W 1Mohm
R1H5	161322104	Resistor,Carbon,1/6W 220ohm
R1H6	161312204	Resistor,Carbon,1/6W 1.2Kohm
R1H9	161347104	Resistor,Carbon,1/6W 470ohm
R1J0	161322304	Resistor,Carbon,1/6W 22Kohm
R1J1	161368104	Resistor,Carbon,1/6W 680ohm
R1J2	161318104	Resistor,Carbon,1/6W 180ohm
R1J3	161339104	Resistor,Carbon,1/6W 390ohm
R1J4	161315204	Resistor,Carbon,1/6W 1.5Kohm
R1J5	161310204	Resistor,Carbon,1/6W 1Kohm
R1J6	161339204	Resistor,Carbon,1/6W 3.9Kohm
R1J7	161318104	Resistor,Carbon,1/6W 180ohm
R1J8	161339104	Resistor,Carbon,1/6W 390ohm
R1J9	161315204	Resistor,Carbon,1/6W 1.5Kohm
R1K0	161310204	Resistor,Carbon,1/6W 1Kohm
R1K1	161339204	Resistor,Carbon,1/6W 3.9Kohm
R1K2	161310204	Resistor,Carbon,1/6W 1Kohm
SW101	23A1102	Switch SKHHLM
SW102	23A1102	Switch SKHHLM
SW103	23A1102	Switch SKHHLM
SW104	23A1102	Switch SKHHLM
SW105	23A1102	Switch SKHHLM
SW106	23A1102	Switch SKHHLM
SW107	23A1102	Switch SKHHLM
VR101	2311556	Volume,RK12K111
	198300101	Jumper 5MM (INSERT)
	198301801	Jumper 7.5MM (INSERT)
	198301901	Jumper 10MM (INSERT)
	198302001	Jumper 12.5MM (INSERT)
	198302101	Jumper 15MM (INSERT)
	198302201	Jumper 17.5MM (INSERT)
	198302901	Jumper 20MM (INSERT)
	2114250	Heat Sink
	2123166A	Shield Plate
	2123167	Shield Plate
	2212178	Holder (IND)
	2532060	IND.Holder
	2903308A	Screw.TPB2J-3X8SSA

PC BOARD ASS'Y(REG)3590320/3655420

Ref.No.	Part No.	Description
W201	180531120	PC Board
C201	1554478G0	Capacitor.Electrolytic.4700uF 25WV
C202	1553478G0	Capacitor.Electrolytic.4700uF 16WV
C203	1553107G5	Capacitor.Electrolytic.100uF 16WV
C204	1553107G5	Capacitor.Electrolytic.100uF 16WV
C205	152622305	Capacitor.Semi-Conductor.0.022uF 25WV
C206	1552107G5	Capacitor.Electrolytic.100uF 10WV
C207	150900110	Capacitor.Ceramic.KC103FZ250
C208	154B10415	Capacitor.MM.0.1uF 63WV
C209	154B10415	Capacitor.MM.0.1uF 63WV
D201	132005300	Diode.DBF20C
D202	132004700	Diode.1N4003
D203	134011721	Diode.HZS6.8JT-B2
D204	132005300	Diode.DBF20C
IC201	111306700	IC.MC7812C
L201	174104600	Coil.PT-131
N201	2603046	Ground Cord
N202	191B15180	Wire
N203	191B15280	Wire
P201	198110794	Post.IL-S-4PS
Q201	124140600	Transistor.2SD1406-O.Y.GR
Q202	123174021	Transistor.2SC1740ST-Q.R
R201	161315204	Resistor.Carbon.1/6W 1.5Kohm
R202	161315204	Resistor.Carbon.1/6W 1.5Kohm
Z201	26GA002	Mini Fuse.1.25A 250V
Z202	26GA003	Mini Fuse.630MA 250V
	101000900	Bush MP4N4
	198301901	Jumper 10MM (INSERT)
	198302101	Jumper 15MM (INSERT)
	2114255	Heat Sink
	2117172B	Bracket
	2117195	Bracket
	23A1108	Switch SDDJA2-B
	2602074	Power Cord
	2681018A	Terminal Guide
	26N2001	Fuse Holder
	2869001	Clamp BK1
	28H301120	Vinyl Tube 11-20M
	28HA00019	Coupler Cover SB2936
	28HA00021	Cord Support 313525
	2903308A	Screw.TPB2J-3X8SSA
	2903410A	Screw.TPB2J-4X10SSA
	290B3BAA	Screw.TPB2J-3X12X10SSA

PC BOARD ASS'Y(RECV)3576700/3646900

Ref.No.	Part No.	Description
W701	180529910	PC Board
C701	151A47105	Capacitor,Ceramic,470PF 50WV
C702	151A47105	Capacitor,Ceramic,470PF 50WV
C703	155647425	Capacitor,Electrolytic,0.47uF 50WV
D701	131002101	Diode,1SS254T
F701	175300160	Ceramic Filter,CSB400P
IC701	119046300	IC,LC6528C-3616
MD701	106001100	Module,GP1U501
P701	198110798	Post,IL-S-8PS
Q701	121093321	Transistor,2SA933ST-R,S
Q702	121093321	Transistor,2SA933ST-R,S
Q703	121093321	Transistor,2SA933ST-R,S
Q704	121093321	Transistor,2SA933ST-R,S
Q705	121093321	Transistor,2SA933ST-R,S
Q706	121093321	Transistor,2SA933ST-R,S
R701	161322404	Resistor,Carbon,1/6W 220Kohm
R702	161322404	Resistor,Carbon,1/6W 220Kohm
R703	161322404	Resistor,Carbon,1/6W 220Kohm
R704	161322404	Resistor,Carbon,1/6W 220Kohm
R705	161322404	Resistor,Carbon,1/6W 220Kohm
R706	161322404	Resistor,Carbon,1/6W 220Kohm
R707	161347304	Resistor,Carbon,1/6W 47Kohm
R708	161310304	Resistor,Carbon,1/6W 10Kohm
	198300101	Jumper 5MM (INSERT)

PC BOARD ASS'Y(SUB1)3574230/3655430

Ref.No.	Part No.	Description
W301	180531130	PC Board
P301	198112399	Post.IL-SDA-09S-S2L2

PC BOARD ASS'Y(SUB2)3574240/3655440

Ref.No.	Part No.	Description
W401	180531140	PC Board
P401	19811239B	Post.IL-SDA-11S-S2L2

PC BOARD ASS'Y(SUB3)3574250/3655450

Ref.No.	Part No.	Description
W501	180531150	PC Board
P501	198112397	Post.IL-SDA-07S-S2L2

PC BOARD ASS'Y(SUB4)3574260/3655460

Ref.No.	Part No.	Description
W601	180531160	PC Board
P601	198112496	Post.IL-SDA-06P-S2T2

Section 3
MECHANICAL DESCRIPTION
Mechanical Adjustment
Jigs and Tools

Item	Part No.	Adjustment
Dial Gauge	VFK-0190	Reel Height
Master Plane	VFK-0191	Reel Height, Tape Guide Height
Height Gauge	VFK-0139B	Tape Guide Height
Torque Meter	VHT-063	Back Tension
Driver Large (Special)		Control Head
Driver Small (Special)		Tape Guide Height
FG Plate Mounting		FG Plate Setting
Wrench M2 Hexagon		Guide Roller Setting
Wrench M2.6 Hexagon		Capstan Pulley Setting
Wrench M3 Hexagon		A/C Head Azimuth
Mirror	VFK-0169	Tape Transportation Check
Box Driver M3		Guide Pole A/C Head Height

Mechanical Adjustment

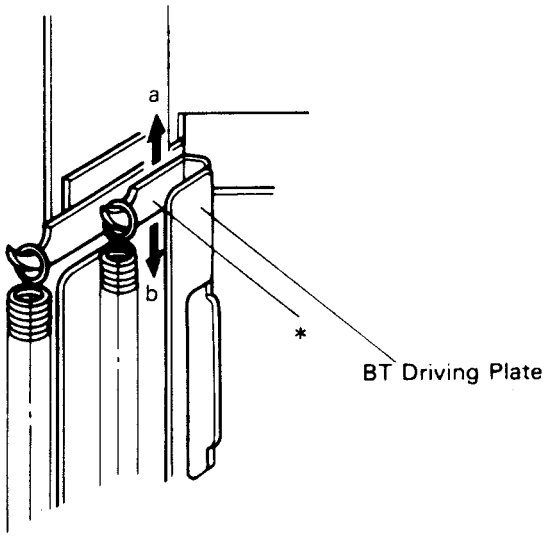


Fig.1

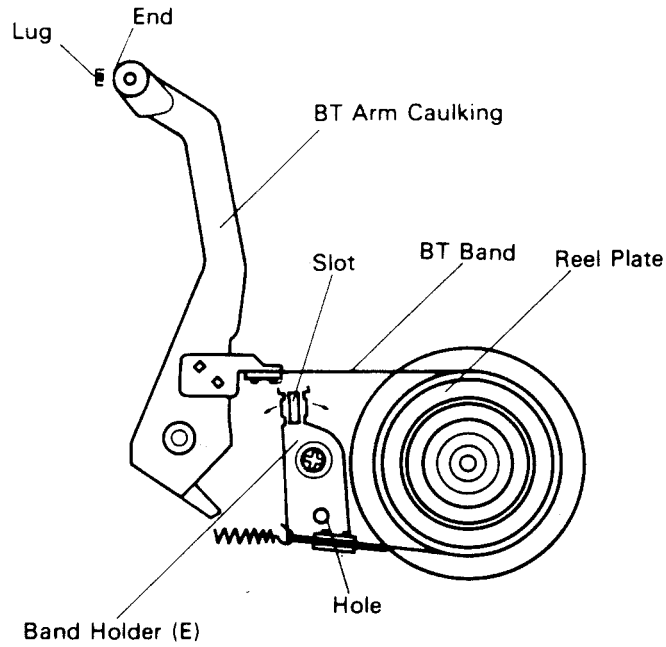


Fig.2

1. PROCEDURE OF BACK TENSION TORQUE ADJUSTMENT. (Fig. 1)

Bend the portion marked *, by using a pair of pincers or the like, toward the direction indicated by an arrow to adjust the BT torque.

Bent toward direction (a) : BT torque goes up.

Bent toward direction (b) : BT torque goes down.

Caution : Do not damage the main chassis with the pincers.

Do not over-bend the portion marked *.

2. BACK TENSION PIN LOCATION ADJUSTMENT.

In the PLAY mode (without a tape) (Fig. 2)

While securing the band holder (E) by inserting an eyeletter or the like through the hole, adjust the distance between the edge of the BT arm caulking and the chassis lug is set approx. 0.5mm by turning a screw driver inserted through a square slot toward the direction indicated by an arow.

5. Reel disk height

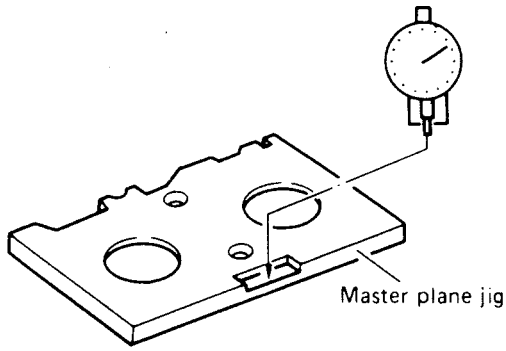


Fig. 3 Master plane jig setting

1. Set the master plane jig as shown in **Fig. 3.**

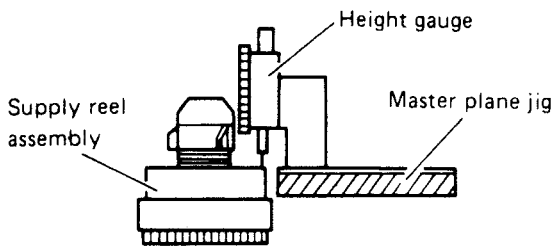


Fig. 4 Reel height adjustment

2. Set dial gauge on the master plane.
3. Check reel assembly height measure at two places 90° apart. (±0.2 mm) **(Fig. 4)**

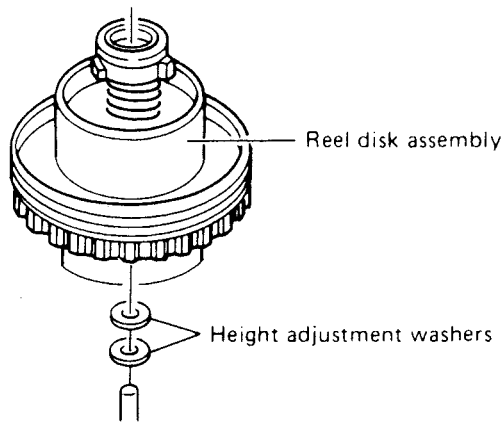


Fig. 5 Washers for height adjustment

4. If it is necessary to adjust the height, add or subtract the required number of height adjustment washers as shown in **Fig. 5.**
5. After reassembling, confirm a small amount of mechanical play between reel disk and slit washer.

6 Guide pole height adjustment

1. Set the master plane jig as shown in **Fig. 3.**

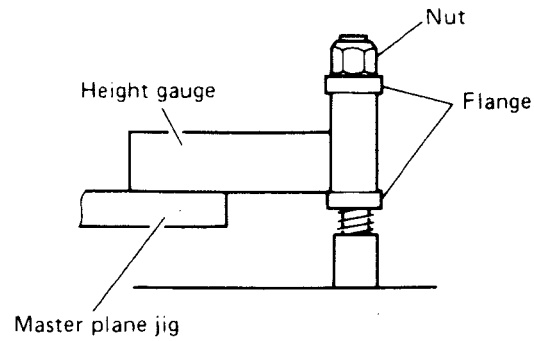


Fig. 6 Guide pole height adjustment

2. Set the height gauge on the master plane jig as shown in **Fig. 6.**
3. For each guide pole, check the height of the upper face of the lower flange. If necessary, carefully adjust by turning the nut.
4. If guide pole height has been adjusted, following checks and adjustments described in following pages are required.

5. Tape Transport System Checks and Adjustment

The tape transport system has been precisely aligned at the factory and normally does not require re-adjustment. The following steps are therefore necessary only in cases of severe usage or when replacing parts affecting the tape transport system.

A: Tape transport check

1. Employ self-recording tape and operate the machine between PLAY and STOP modes several times.
2. During PLAY mode, observe tape at the input and output portions (A and B in **Fig. 7**) of the head drum lead. Confirm that the tape slips neither upward nor downward with respect to the lead as shown in **Fig.8**.

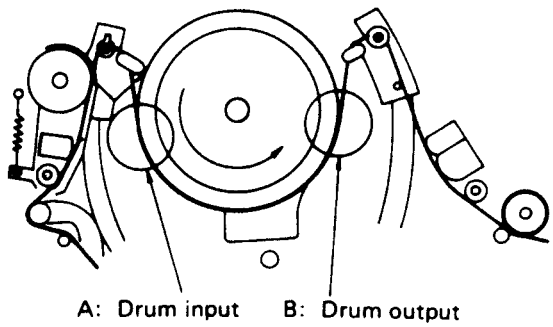


Fig.7 Tape transport check

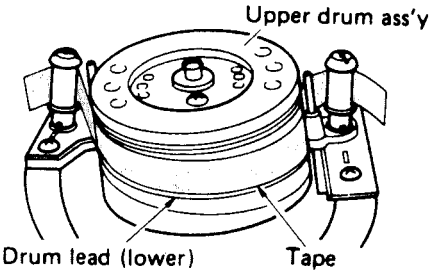


Fig.8 Drum lead check - 1

NOTES:

1. Slips upward : sound becomes produced by contact between tips of rotating heads and edge of tape.
2. Slips downward : tape curls or wrinkles from contacting lead face (sound may also be produced).
3. During loading, Play and Unloading, observe the tape at the supply guide rollers and poles, and take-up guide rollers.
   Confirm absence of curling, wrinkling, etc, as shown in **Fig.9**.

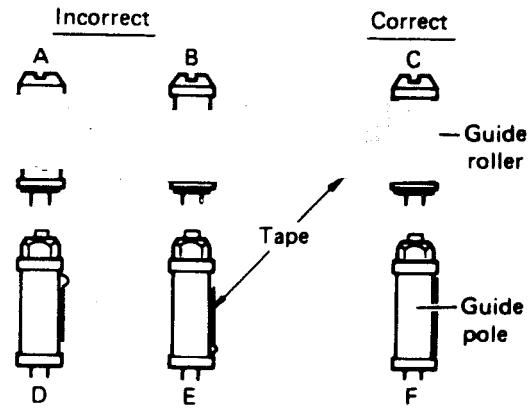


Fig.9 Guide roller and guide pole

4. Observe the tape as it becomes wrapped around drum during loading and as it separates from the drum during unloading.
   Confirm absence of damage to the tape at points C and D as shown in **Fig.10** and absence of contact noise between head tips and tape edge.

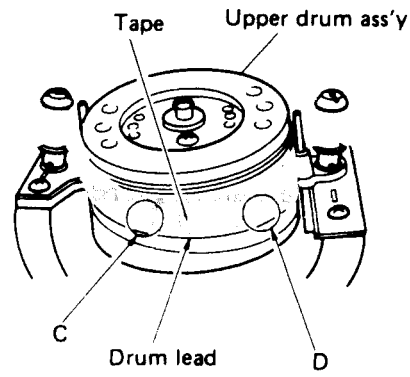


Fig.10 Drum lead check - 2

5. Audio/control head

A: Tape transport adjustment

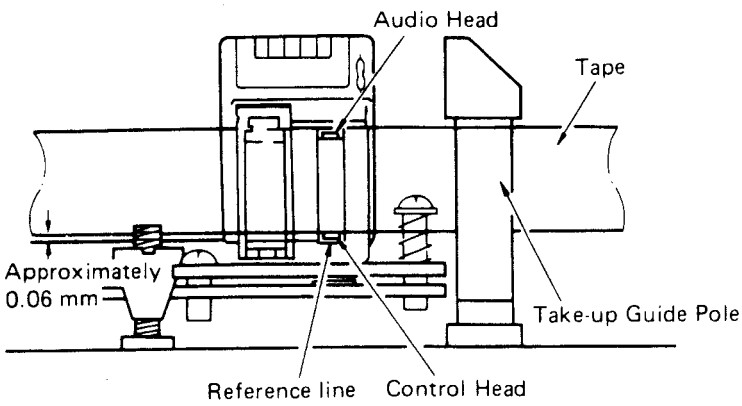


Fig. 7 A/C head adjustment

1. Employ self-recording tape and set for PLAY mode.
2. Turn screw Ⓒ **(Fig. 7-A)** and adjust for smooth transport at the take-up guide pole.

B: Audio/Control head height and azimuth

1. Connect oscilloscope to Audio Out.
2. Play alignment tape (8 kHz and stairstep signals) and measure the audio output level.
3. Turn nut Ⓐ, screws Ⓑ and Ⓒ in succession by small and equal increments at a time and adjust for maximum audio output level. With reference to nut Ⓐ, adjust azimuth with screws Ⓑ and Ⓒ so that small tape wrinkles are not produced at the guide pole, but at the same time, audio output becomes maximum and level fluctuations minimum. It is suggested to first turn nut Ⓐ by a small amount, then turn screws Ⓑ and Ⓒ by an equal amount and set for maximum output.
4. Carefully and evenly adjust nut Ⓐ, screws Ⓑ and Ⓒ to align the audio/control head height with the tape as shown in **Fig. 7.**

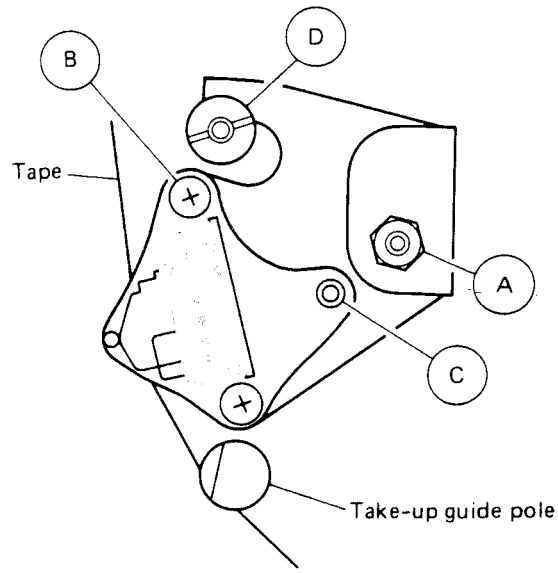


Fig. 7 - A

5. If defects are noted during the above checks, perform the following adjustments.

B: Guide roller height adjustment

1. Slightly loosen setscrews of the supply and take-up guide rollers as shown in **Fig.12**
2. Employ self-recording tape and set for PLAY mode.
3. With a slotted screwdriver, slightly turn the supply guide roller (do not turn more than 180° at a time) and adjust so that at the drum input, the tape travels smoothly in the drum lead without slipping upwards or downwards.
4. Similarly, adjust the take-up guide roller for the drum output.

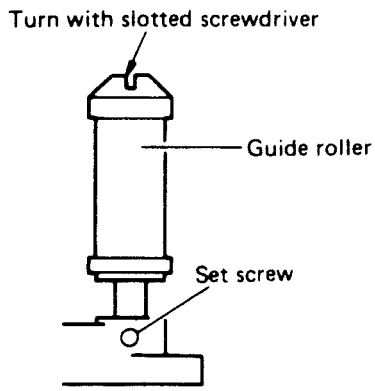


Fig.12 Guide roller height adjustment

NOTES:

1. Loosen the setscrews only enough to allow the guide rollers to be turned.
   If excessively loose, tape motion may turn the rollers inadvertently.
2. Turn the rollers carefully to avoid damage to the tape.

C: ADJUSTMENT OF THE IMPEDANCE ROLLER

While tape is running in the reverse direction : Adjust the height of the nylon nut so that the bottom edge of the tape is not interfered by the tape guide flange.

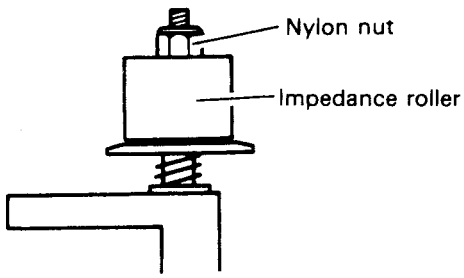


Fig.13 Supply guide pole height adjustment

D: Tape transport check at the take-up guide pole

Generally no adjustment will be necessary for the take-up guide pole. However the adjustments or checks will be needed when replace Audio/Controle head or parts affecting the tape transport system after a long period of operation.

1. Employ self-recording tape and set for **PLAY mode.**
2. Turn audio/control head screw (C) as shown in **Fig.14** and adjust for smooth transport at the take-up guide pole as shown by F of **Fig.9**.

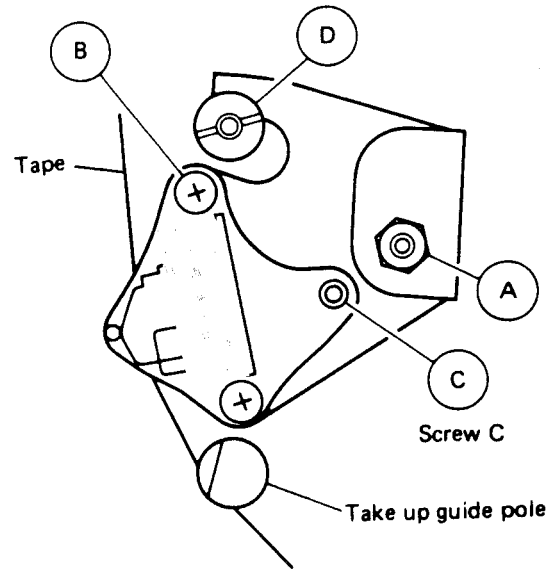


Fig.14 Take-up guide pole

7. Interchangeablity Adjustment

Before using alignment tape, employ self-recording tape and confirm correct tape transport.

① Preliminary checks

A: Check sequence 1

1. Connect the osilloscope with the envelope output terminal.
   Supply the RFS output to the oscilloscope via the EXT. TRIG.
2. Play stairstep portion of the alignment tape.
3. Rotate the tracking control knob to adjust to the FM max. output.
   Set the Tracking control to center click pisition and confirm that nearly maximum output is obtained.

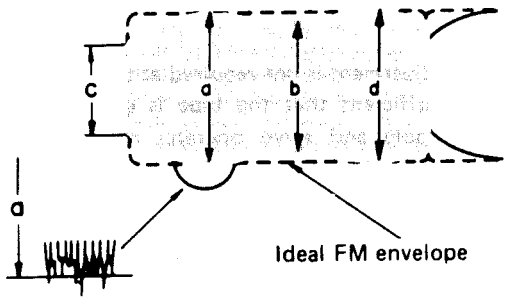


Fig. 15 FM waveform (max. output)

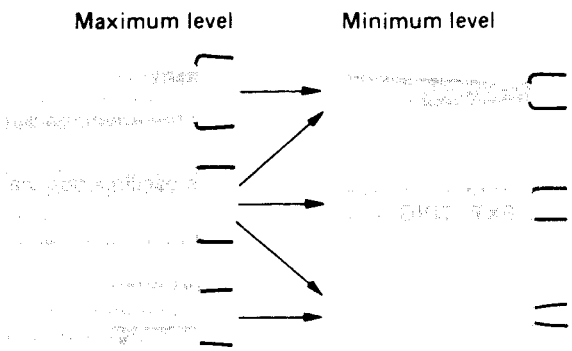


Fig. 16 Normal waveform examples

4. Refer to **Fig. 15** Read the level of portion (a) of the waveform. If the waveform is serrated at point (a), read the value at the most uniform serrations as shown at left in **Fig. 16**
5. As shown by the broken lines, read the FM waveform value at point (b) and confirm that:

$$\frac{b}{a} \geqq 0.65 \text{ or } 20 \log \frac{b}{a} \geqq -3\text{dB}$$

6. Read the values at points (c) and (d) [drum input and output] and confirm that:

$$\frac{c}{a} \geqq 0.5 \text{ and } \frac{d}{a} \geqq 0.5 \ (\geqq -6\text{ dB})$$

NOTES:

1. Read minimum levels for (b), (c) and (d).
2. If above checks yield normal results, proceed to section ① - B.
3. If defects are noted, perform preliminary adjustments in section ②.

B: Check sequence 2

1. Observe the FM waveform as in the previous section (① - A) and turn the Tracking control.
   The waveform variation should be nearly parallel as shown in **Fig. 16.**
2. If the waveform varies as shown in **Fig. 17**, adjustment becomes required.

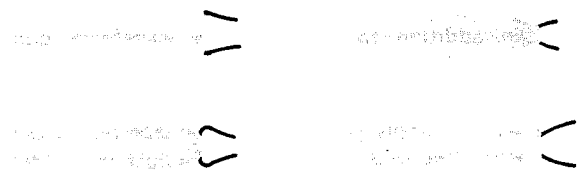


Fig. 17 Incorrect waveform examples

② Preliminary adjustments

1. Loosen the setscrews of the supply guide roller and take-up guide roller.
   If the guide rollers turn freely, slightly tighten the set screws.
2. Connect the oscilloscope with the envelope output terminal.
   Connect the RFS output terminal to the EXT. TRIG. of the oscilloscope.
3. Play the alignment tape (stairstep signal).

A: Drum input

1. Observe oscilloscope display and adjust the Tracking control for maximum FM output.
2. Refer to **Fig. 18.** Examples of incorrect waveform are shown by A.
   Use a slotted screwdriver to adjust the supply guide roller so that the rising portion (drum input portion) on the waveform becomes flat as shown by B.

NOTES:

1. If the guide roller turns freely, tighten the setscrew slightly.
2. Be sure to adjust the guide roller only by small amount at a time in order to avoid damaging the alignment tape.

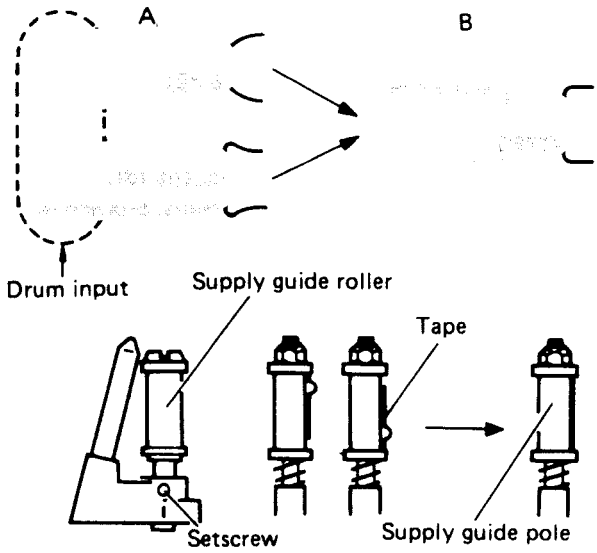


Fig.18 Drum input adjustment

In addition to observing the waveform, confirm absence of tape slippage or curling at the drum lead and guide poles.

3. At the supply guide pole, if the tape separates from the guide or wrinkling occurs, adjust the guide pole height.

B: Drum output

1. In the same manner as for the drum input, turn the take-up guide roller to adjust the falling portion (drum output portion) of the FM waveform.
   Incorrect examples are shown by C in Fig.19, while D indicates the correct adjustment.
2. If the tape separates from the guide or wrinkling occurs at the take-up guide pole, adjust by turning screw Ⓒ of the audio/control head as shown in Fig.20.

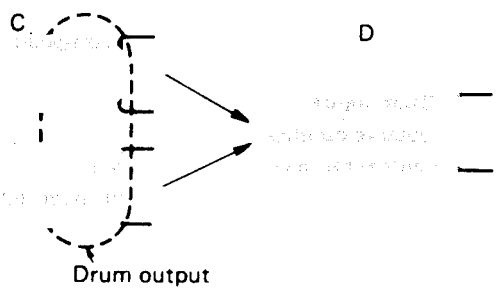


Fig.19 Drum output adjustment

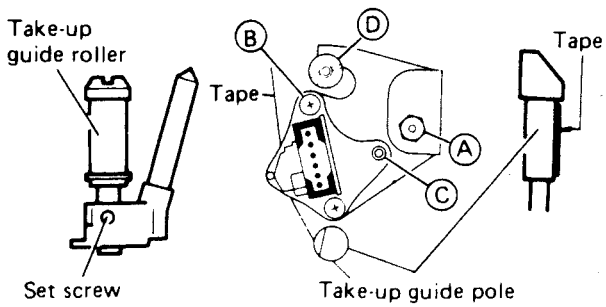


Fig.20 Take-up guide pole

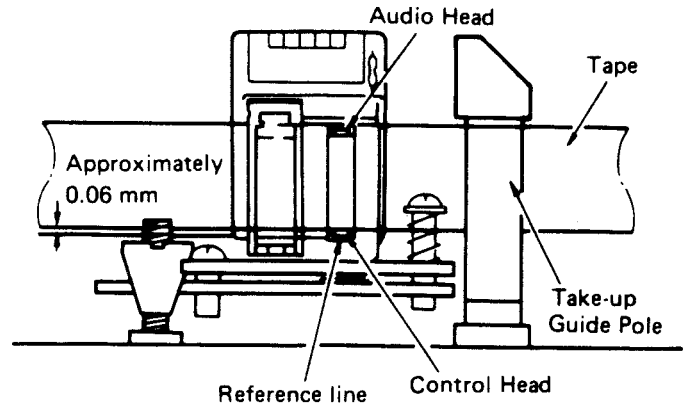


Fig.21 Audio/Control head height

3. Carefully and evenly adjust screws Ⓑ, Ⓒ and nut Ⓐ to align the audio/control head height with the tape as shown in Fig.21

NOTES:

1. Fine adjustment is not required at this time.
   It is sufficient that the tape is engaged with the guide pole and servo operates properly (control signal picked up).
2. If the tape separates from the take-up guide pole or wrinkling occurs, screw Ⓒ (Fig.20) has been turned excessively with respect to nut Ⓐ and screw Ⓑ causing the audio/control head to incline forward or rearward. Use care to adjust screws Ⓑ, Ⓒ and nut Ⓐ evenly and observe that small wrinkles are not produced at the take-up guide pole.

③ Interchangeability fine adjustment

1. Connect the oscilloscope with the envelope output terminal.
   Supply the RFS output to the oscilloscope via the EXT. TRIG.
   Observe the FM waveform and adjust the Tracking control for minimum FM output level.

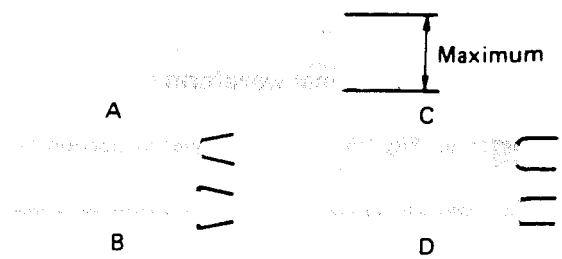


Fig.22 Minimum FM output (incorrect examples)

2. If the waveform becomes as shown by A or B of Fig.22, carefully adjust the supply guide roller height so that the waveform becomes as shown by E, F or G of Fig.23.
   At this time, if the waveform fluctuates, adjust to the point of minimum fluctuation.

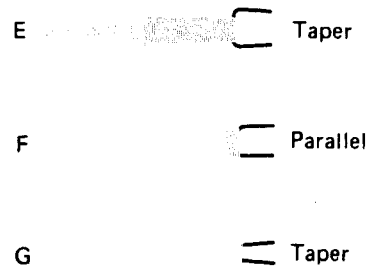


Fig.23 Minimum FM output (correct examples)

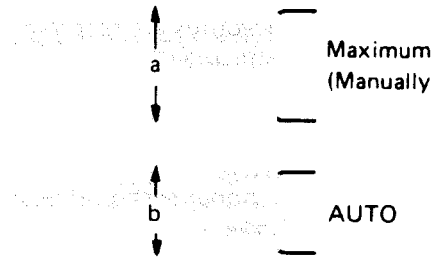


Fig.24 FM output level

3. If the FM waveform appears as shown by C or D in Fig.22, carefully adjust the take-up guide roller height to obtain a waveform such as shown by E, F or G of Fig.23.
   At this time, if the waveform fluctuates, adjust to the point of minimum fluctuation.
4. Vary the Tracking control from maximum to minimum FM output.
   Perform fine adjustment of supply and take-up guide rollers so that waveform variation becomes as shown by E, F or G of **Fig. 23**.

④ Setscrew tightening

1. Check for maximum FM output waveform, maximum audio out and absence of tape wrinkling or other transport irregularities, then secure the guide rollers.
   Perform in STOP mode.
2. Since the guide rollers are easily moved, use care when securing.
3. After tightening the setscrews, again perform interchangeability final check.

⑤ Interchangeability final check

Confirm section 7-①, (page 44), Preliminary checks.

⑥ Servo circuit adjustment

1. Head switching position (see Electrical Adjustment in section).
2. Normal tracking preset (see Electrical Adjustment in section).

⑦ Control head phase adjustment

1. Connect the oscilloscope with the envelope output terminal.
   Connect the RFS output terminal to the EXT. TRIG. of the oscilloscope.
2. Play stairstep portion of the alignment tape and observe the oscilloscope display.
3. Set the Tracking control to center click position.
4. Confirm that the level difference between this setting and the maximum level obtained manually as shown in **Fig.24** is:

$$-20 \log \frac{b}{a} \geqq 1.5\text{dB or } \frac{b}{a} \geqq 0.8$$

5. If necessary, adjust as follows.
6. Set the Tracking control to center click position and play the alignment tape (stairstep).
7. Loosen tracking adjustment nut Ⓓ **(Fig. 20)** and slide the A/C head assembly fully to the direction of the take-up guide pole.

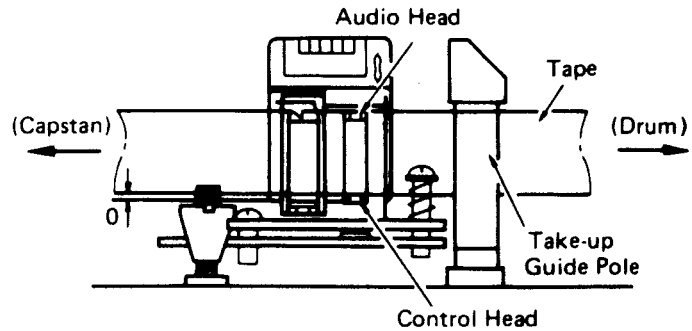


Fig.25 Control head phase adjustment

8. Tighten adjustment nut and slide the A/C head assembly slowly in the direction of the arrow as shown in **Fig.25**.
9. Set the A/C head assembly to the position where first maximum FM level is obtained. Put screw locking glue on the nut Ⓓ **(Fig. 20)**.

⑧ Final checks

Confirm section 7-① (page 44), Preliminary checks.

PERIODIC MAINTENANCE

The following procedures are recommended for maintaining optimum performance and reliability of this video cassette player.

1 Cleaning

For cleaning, use a lint-free cloth or gauze dampened with alcohol.

A: Tape transport system

1. The following components should be cleaned after every 500 hours of use.
   1) Impedance Roller
   2) Tension Pole
   3) Supply Slide Post
   4) Supply Guide Roller
   5) Take-Up Slide Post
   6) Take-Up Guide Roller
   7) Video Head & Drum System
   8) Drum Ground
   9) Drum Motor Shaft (Upper)
   10) Audio/Control Head
   11) Pinch Roller
   12) Capstan
   13) Reverse Guide Pole

2. Since above parts come in direct contact with video tape, they tend to collect dust particles. If allowed to accumulate, dust may lead to damage to the video tape and above parts.
3. After cleaning with alcohol, allow the parts to dry thoroughly before using a cassette tape.

NOTE:

When cleaning the two video heads on the upper drum, do not clean them with a vertical stroke.
Use only a gentle back and forth motion in the direction of the tape path.
Use care since they are easily damaged.
When cleaning video heads, A/C head, F/E head use a lint-free cloth dampened with alcohol.

B: Reel drive system

1. The following components should be cleaned after every 1000 hours of use.

—Top—	—Bottom—
15) Take-Up Reel	19) Capstan Motor Pulley
16) Supply Soft Brake	20) Drive Belt
17) Supply Brake	21) Main Belt
18) Take-Up Brake	22) Loading Belt
	23) Capstan Flywheel
	24) Intermediate Pulley
	25) Loading Motor Pulley
	26) Eject Pulley
	27) Worm Pulley
	28) Clutch (Ass'y)

2. The above revolving parts are of rubber or come in direct contact with rubber parts. Rubber dust can accumulate and interfere with proper operation.
3. Avoid using excessive alcohol when cleaning rubber parts.

2 Lubrication

The following components should be lubricated with oil after every 2000 hours of use.
26) Shaft of the take-up reel
27) Shaft of the supply reel
After cleaning above shafts with alcohol, lubricate these shafts with one or two drops of oil.
Do not overlubricate.

3 Service schedule for main components

The following chart lists the parts which should receive periodic servicing at the recommended intervals.

Name	Periodic Service Schedule (operating hours)					Part No.
	1 000	2 000	3 000	4 000	5 000	
Upper Drum Ass'y	○	●	○	●	○	62D805901308
Drive Belt		●		●		62D80590917
Clutch Ass'y		●		●		62D805909302
Capstan motor Ass'y		●		●		62D805907302
Main Belt		●		●		62D80590710
Loading Belt		●		●		62D80591106
Back tension Band Ass'y		●		●		62D805908302
Drum Earth Braket		●		●		62D80590102
Front Loading Clutch Ass'y		●		●		62D805916305
Supply Soft Brake Ass'y		●		●		62D805910304
Supply Brake		●		●		62D80591019
Take-Up Brake		●		●		62D80591019
Audio/Control Head			●			62D62041506
Pinch Roller			●			62D62041503
Loading Motor Ass'y			●			62D805911301
Supply Reel Ass'y			●			62D805905301
Take-Up Reel Ass'y			●			62D805905301

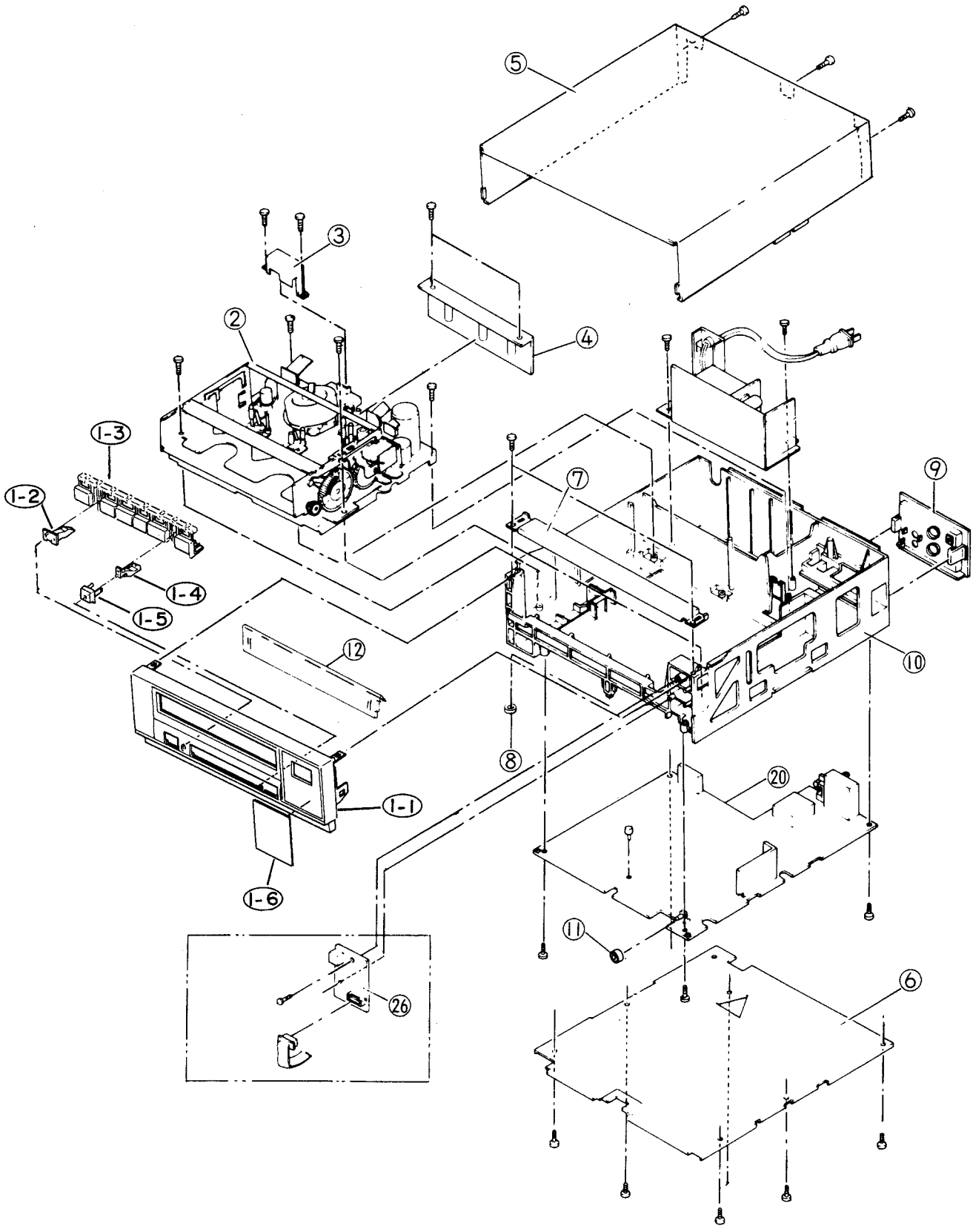
Fig. 26 Standard service periods

○ Check and replace if necessary
● Replace

4 Note

Even if the unit is not used frequently, Cleaning, Lubrication and Replacement of the belts should be undertaken every 2 years.

Cabinet Exploded View



ACCESSORIES

Ref.No.	Part No.	Description
1	26B1012	Cable Ass'y
2	108007500	Remote Controller,075
3	29X0009	Battery Kit

MANUAL

Ref.No.	Part No.	Description
1	2883606	Owner's Manual TVP-1050

PACKING MATERIALS

Ref.No.	Part No.	Description
1	2821023	Plastic Bag
2	2871171	Styrofoam
3	283A001	Desiccant (B) 20G
4	2851525	Individual Box,TVP-1050
5	2854430	Master Carton (2)

CABINET & CHASSIS

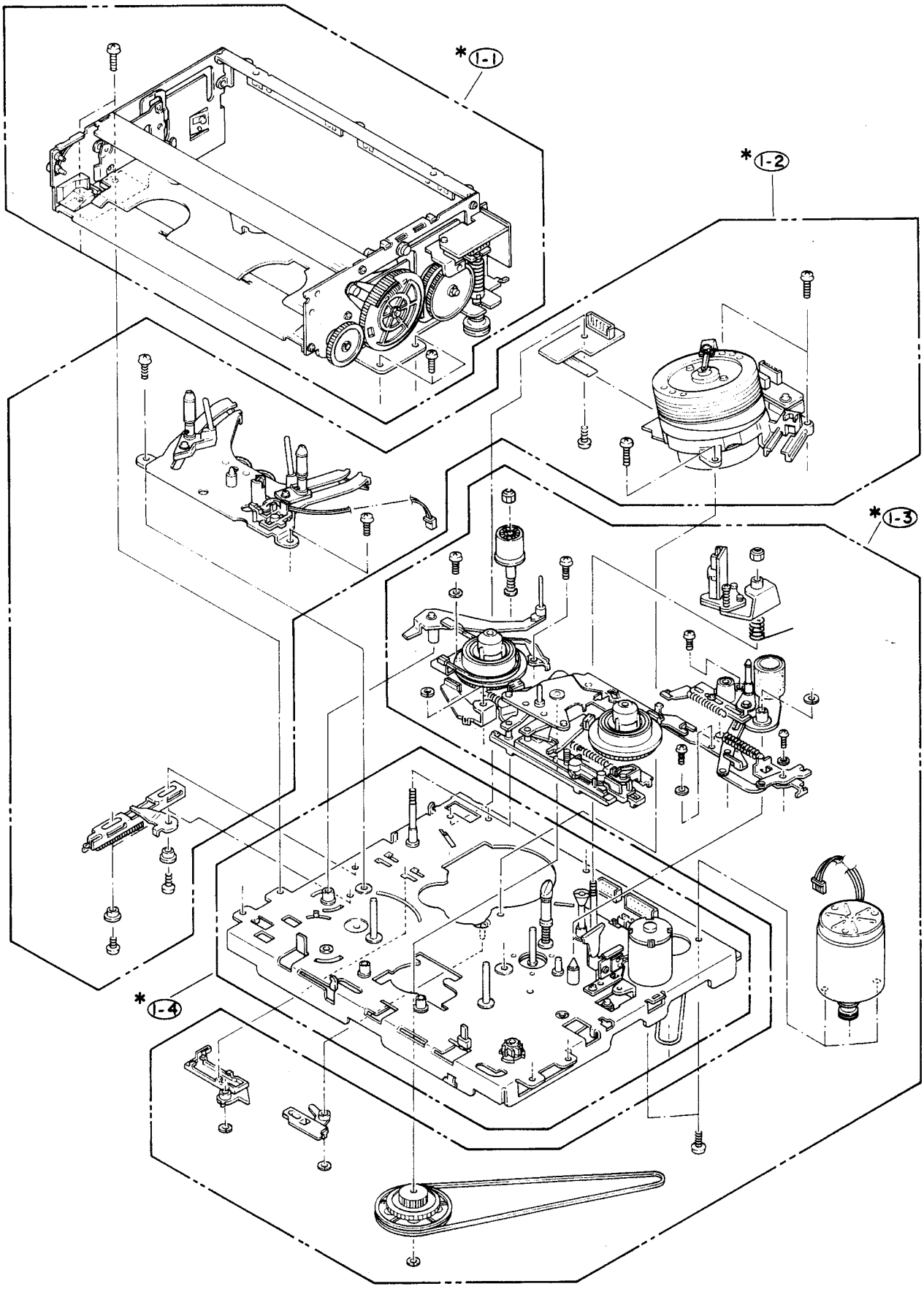
Ref.No.	Part No.	Description
1	2231521	Face Plate Ass'y TVP-1050
2	59218	Deck Mechanism,TN5900P 2SPN106
3	2123187	Shield Plate (Head)
4	2117169	Bracket (Clamp)
5	2104329	Cover (Top)
6	2104330	Cover (Bottom)
7	2117171	Bracket
8	2537073	Rubber Spacer
9	2212273	Holder (Back)
10	2270055	Chassis
11	2210321	Knob (Tracking)
12	2240116	Dust Cover
13	2903312A	Screw,TPB2J-3X12SSA
14	290B3BAA	Screw,TBP2J-3X12X10SSA
15	2981312C	Screw,TAP2J-3X12SSC
16	2903265A	Screw,TPB2J-2.6X5SSA
17	2952306A	Screw,DPBS-3X6SSA
18	2911265C	Screw,APBM-2.6X5SSC
19 *	3599010/3661210	PC Board Ass'y,MAIN
20 *	3590320/3655420	PC Board Ass'y,REG
21 *	3574230/3655430	PC Board Ass'y,SUB1
22 *	3574240/3655440	PC Board Ass'y,SUB2
23 *	3574250/3655450	PC Board Ass'y,SUB3
24 *	3574260/3655460	PC Board Ass'y,SUB4
25 *	3576700/3646900	PC Board Ass'y,RECV
26	28A2473	Main Label TVP-1050

For details of item marked *,refer to pages 26-37

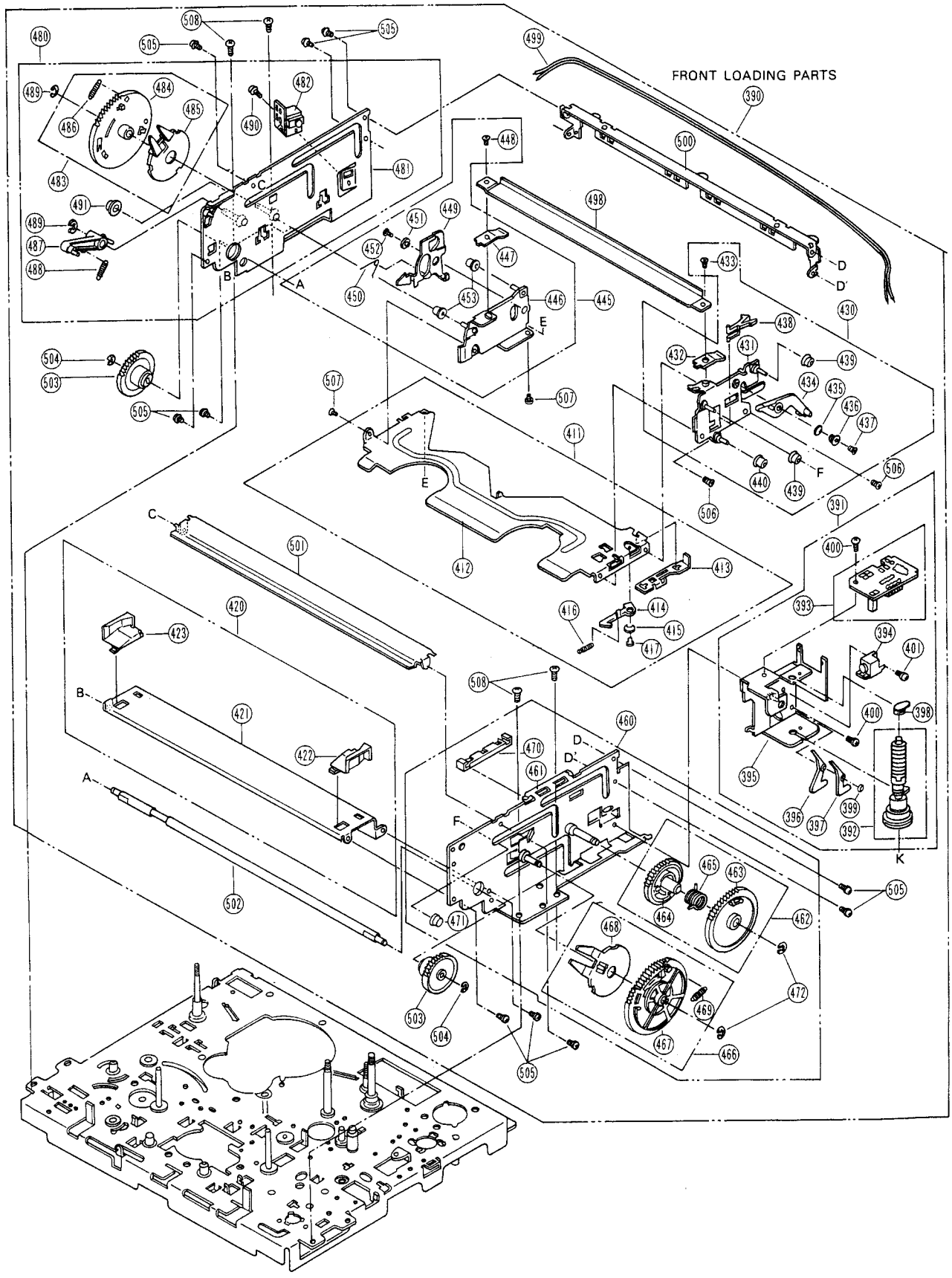
FACE PLATE ASS'Y 2231521

Ref.No.	Part No.	Description
1-1	2203542	Face Plate
1-2	2202202	Indicator (Power)
1-3	2259378	Push Button
1-4	2202201	Indicator (A/R)
1-5	2259379	Push Button (A/R)
1-6	2161644	Ornamental Plate

Cassette Deck Exploded View-General



‹1-1›



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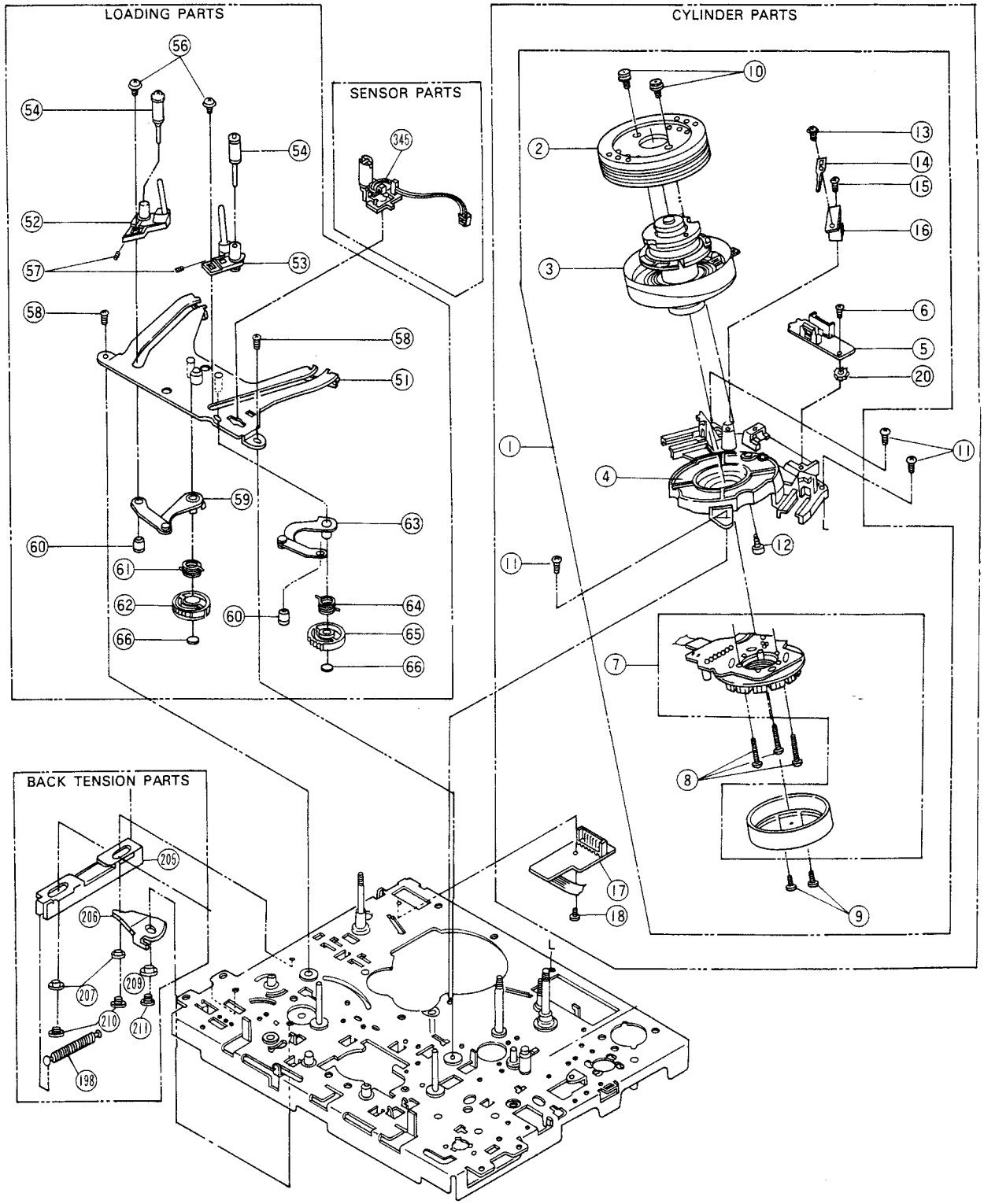
LOADING PARTS
SENSOR PARTS
CYLINDER PARTS
BACK TENSION PARTS
56
54
54
52
57
53
58
58
51
59
63
60
61
62
60
64
65
66
66
345
10
2
13
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12
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17
18
205
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207
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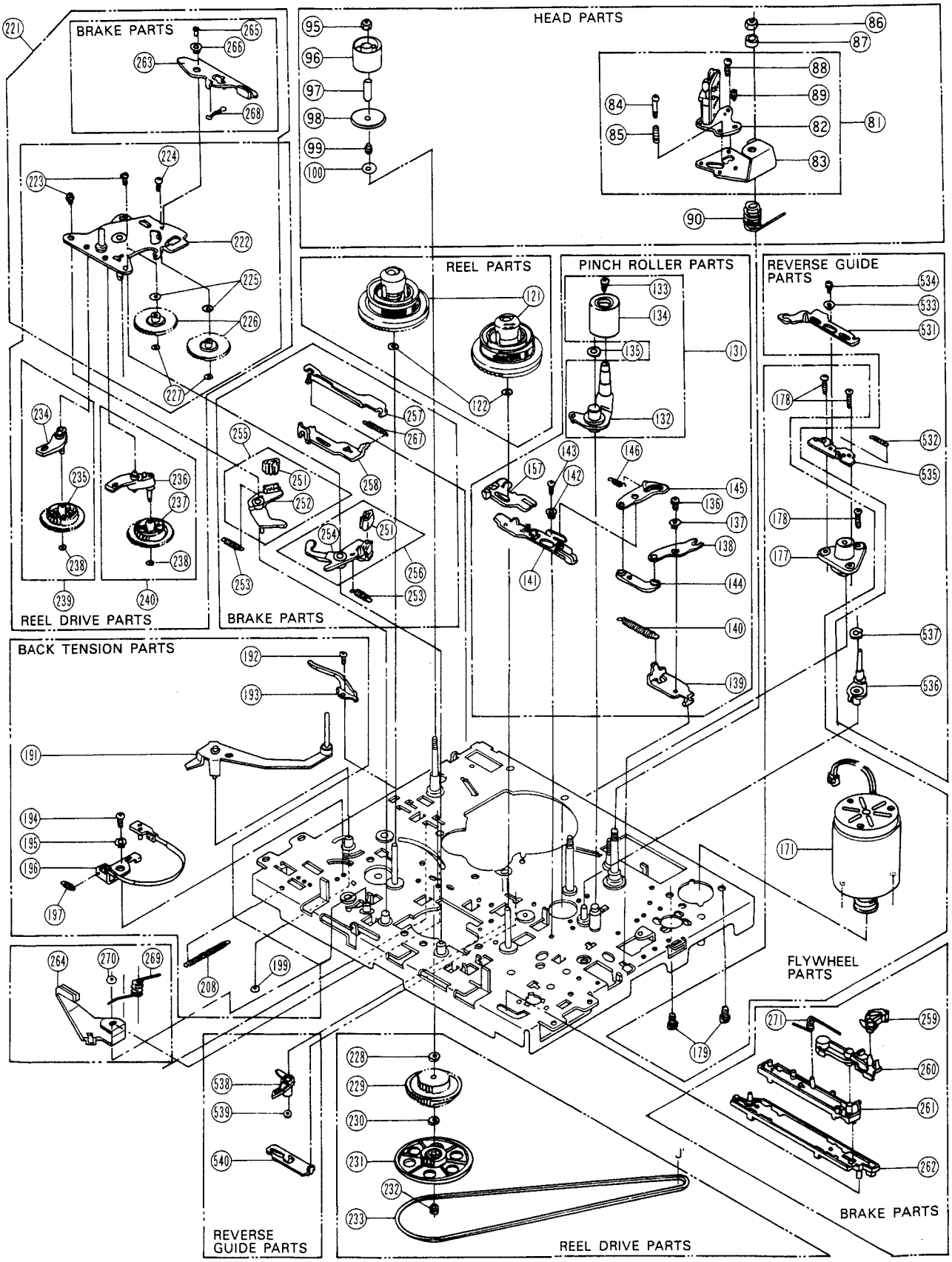
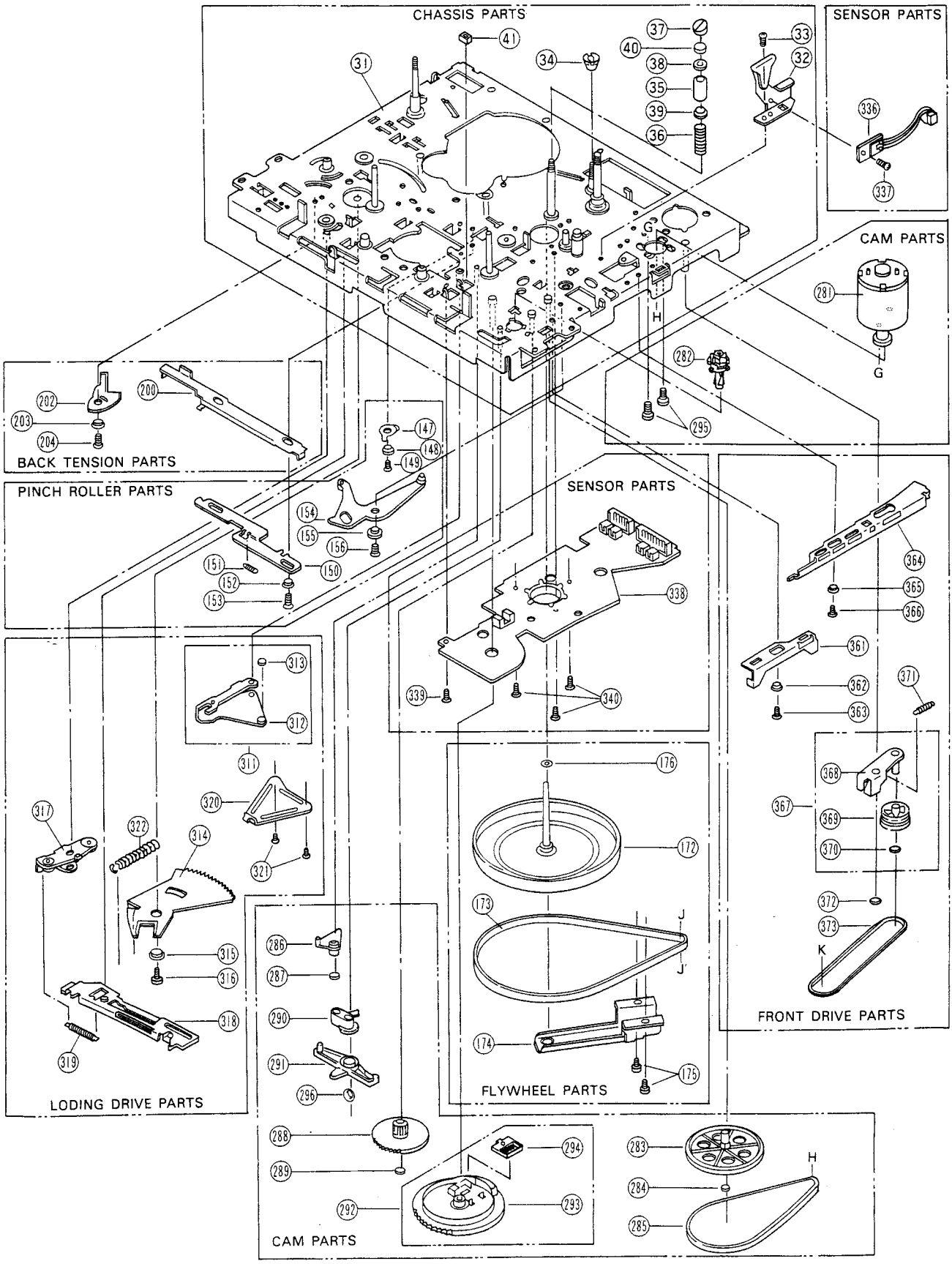
210
211
198

‹1-3›


HEAD PARTS
BRAKE PARTS
REEL PARTS
PINCH ROLLER PARTS
REVERSE GUIDE PARTS
REEL DRIVE PARTS
BRAKE PARTS
BACK TENSION PARTS
FLYWHEEL PARTS
REVERSE GUIDE PARTS
REEL DRIVE PARTS
BRAKE PARTS

‹1-4›


CHASSIS PARTS
SENSOR PARTS
CAM PARTS
BACK TENSION PARTS
PINCH ROLLER PARTS
SENSOR PARTS
FRONT DRIVE PARTS
LODING DRIVE PARTS
FLYWHEEL PARTS
CAM PARTS

CASSETTE DECK MECHANISM 59218

Ref.No.	TN Part No.	ST Part No.	Description
1	8059-01-310	62D805901310	Cylinder Ass'y
2	8059-01-19	62D80590119	Upper Dram
3	8059-01-304	62D805901304	Lower Dram Ass'y
4	8059-01-01	62D80590101	Cylinder Mount
5	8059-01-305	62D805901305	Video Out PCB Ass'y
6	9973-00-00	62D99730000	W Tams Screw 2.6x6
7	6004-09-01	62D60040901	Motor TM82
8	9050-00-00	62D90500000	Screw 2.6x20
9	9098-00-00	62D90980000	Tams Screw 2.6x6
10	9972-00-00	62D99720000	Bind Tams Screw 3x8
11	9205-00-00	62D92050000	C Tapping Screw 3x10
12	9552-00-00	62D95520000	Screw (for Camera) 2x5 (No.1)
13	9665-00-00	62D96650000	Cap Screw 2.6x3
14	8059-01-23	62D80590123	Dram Earth
15	9192-00-00	62D91920000	C Tapping Screw 2.6x5
16	8059-01-02	62D80590102	Dram Earth Bracket
17	8059-01-303	62D805901303	DM PCB Ass'y
18	9192-00-00	62D91920000	C Tapping Screw 2.6x5
20	9715-00-00	62D97150000	Washer 2.6
31	8059-02-502	62D805902502	Chassis Semi-Ass'y
32	8059-02-301	62D805902301	Open Angle Ass'y
33	9191-00-00	62D91910000	C Tapping Screw 2.6x4
34	8000-03-16	62D80000316	Tracking Adjuster
35	8000-03-14	62D80000314	Tape Guide
36	8059-02-26	62D80590226	Tape Guide Spring
37	8000-03-19	62D80000319	Guide Cap
38	8000-03-28	62D80000328	Tape Guide Flange (C)
39	8059-02-25	62D80590225	Tape Guide Flange (F)
40	9453-00-00	62D94530000	Nut 3.0
41	8059-02-23	62D80590223	Damper Rubber
51	8059-03-501	62D805903501	Loading Base Semi-Ass'y
52	8059-03-04	62D80590304	Loading Block (L)
53	8059-03-05	62D80590305	Loading Block (R)
54	8000-03-33	62D80000333	Roller Post SIS
56	9665-00-00	62D96650000	Cup Screw 2.6x3
57	9952-00-00	62D99520000	Set Screw 2x3 (Plane Type)
58	9192-00-00	62D91920000	C Tapping Screw 2.6x5
59	8059-03-502	62D805903502	Loading Plate (L) Semi-Ass'y
60	8059-03-14	62D80590314	Loading Boss
61	8059-03-08	62D80590308	Loading Gear Spring (L)
62	8059-03-06	62D80590306	T Loading Gear (L)
63	8059-03-503	62D805903503	Loading Plate (R) Semi-Ass'y
64	8059-03-09	62D80590309	Loading Gear Spring (R)
65	8059-03-07	62D80590307	T Loading Gear (R)
66	9884-00-00	62D98840000	P Washer Cut 2.6x6x0.5
81	8059-04-301	62D805904301	Head Base Ass'y
82	6204-15-06	62D62041506	ACE Head HV225211
83	8059-04-01	62D80590401	Head Base
84	8000-06-26	62D80000626	Azimuth Spring Screw
85	8000-06-04	62D80000604	Azimuth Spring

CASSETTE DECK MECHANISM 59218

Ref.No.	TN Part No.	ST Part No.	Description
86	9953-00-00	62D99530000	Nylon Nut M3
87	8059-04-03	62D80590403	Adjust Collar
88	9041-00-00	62D90410000	Screw 2.6x7
89	9950-00-00	62D99500000	Set Screw 3x5 (Sharp Type)
90	8059-04-02	62D80590402	Head Spring
95	9953-00-00	62D99530000	Nylon Nut M3
96	8059-04-05	62D80590405	Impedance Roller
97	8059-04-06	62D80590406	Impedance Roller Sleeve
98	8059-04-07	62D80590407	Tape Guide Flange (A)
99	8059-04-09	62D80590409	Tape Guide Flange Spring
100	9337-00-00	62D93370000	Plane Washer 3x8x0.5
121	8059-05-301	62D805905301	Reel Ass'y
122	9912-00-00	62D99120000	R Washer 3.1x6x0.5
131	8059-06-301	62D805906301	Pinch Roller Arm Ass'y
132	8059-06-501	62D805906501	Pinch Roller Arm Semi-Ass'y
133	9038-00-00	62D90380000	Screw 2.6x4
134	8000-09-22	62D80000922	Pinch Roller (A)
135	9999-03-11	62D99990311	P Washer Cut 5x8x0.5
136	9096-00-00	62D90960000	Tams Screw 2.6x4
137	8059-06-18	62D80590618	Collar
138	8059-06-05	62D80590605	P Actuate Angle
139	8059-06-19	62D80590619	P Angle Holder
140	8059-06-20	62D80590620	P Roller Spring
141	8059-06-24	62D80590624	P Slide Plate A
142	8059-06-18	62D80590618	Collar
143	9192-00-00	62D91920000	C Tapping Screw 2.6x5
144	8059-06-06	62D80590606	Joint Plate
145	8059-06-04	62D80590604	P Actuate Arm
146	8059-06-09	62D80590609	P Actuate Arm Spring
147	8059-06-12	62D80590612	P Clank
148	8059-06-13	62D80590613	P Clank Collar
149	9999-18-10	62D99991810	C Tapping FH Screw (for Camera) 2.6x4
150	8059-06-10	62D80590610	P Slider
151	8059-06-23	62D80590623	P Slider Spring
152	8059-06-11	62D80590611	P Slider Collar
153	9192-00-00	62D91920000	C Tapping Screw 2.6x5
154	8059-06-502	62D805906502	P Cam Lever Semi-Ass'y
155	8059-06-17	62D80590617	P Cam Lever Collar
156	9192-00-00	62D91920000	C Tapping Screw 2.6x5
157	8059-06-25	62D80590625	P Slide Plate B
171	8059-07-302	62D805907302	Capstan Motor Ass'y
172	8059-07-14	62D80590714	Flywheel Capstan
173	8059-07-10	62D80590710	Main Belt
174	8059-07-303	62D805907303	FL Angle Ass'y
175	9202-00-00	62D92020000	C Tapping Screw 3x5
176	9912-00-00	62D99120000	R Washer 3.1x6x0.5
177	8059-07-301	62D805907301	Metal Housing Ass'y
178	9195-00-00	62D91950000	C Tapping Screw 2.6x8
179	9105-00-00	62D91050000	Tams Screw 3x4
191	8059-08-501	62D805908501	BT Arm Semi-Ass'y

CASSETTE DECK MECHANISM 59218

Ref.No.	TN Part No.	ST Part No.	Description
192	9191-00-00	62D91910000	C Tapping Screw 2.6x4
193	8059-08-09	62D80590809	Back Tension Support
194	9191-00-00	62D91910000	C Tapping Screw 2.6x4
195	8059-08-15	62D80590815	Band Holder Collar
196	8059-08-302	62D805908302	BT Band Ass'y
197	8059-08-17	62D80590817	Band Holder Spring
198	8059-08-13	62D80590813	Back Tension Spring
199	9999-03-15	62D99990315	P Washer Cut 2.1x4x0.5
200	8059-08-10	62D80590810	BT Change Plate
202	8059-08-12	62D80590812	BT Return Lever
203	8059-06-18	62D80590618	Collar
204	9192-00-00	62D91920000	C Tapping Screw 2.6x5
205	8059-08-19	62D80590819	BT Actuate Plate
206	D805-90-818	612D80590818	BT Actuate Lever
207	8059-08-21	62D80590821	BT Actuate Plate Collar
208	8059-08-20	62D80590820	BT Actuate Plate Spring
209	8059-06-18	62D80590618	Collar
210	9840-00-00	62D98400000	S Tapping Screw (for Camera) 2.6x3.5
211	9192-00-00	62D91920000	C Tapping Screw M2.6x5
221	8059-09-307	62D805909307	Sub Plate Ass'y
222	8059-09-501	62D805909501	Sub Plate Semi-Ass'y
223	9077-00-00	62D90770000	Tams Screw 2x4
224	9191-00-00	62D91910000	C Tapping Screw 2.6x4
225	8000-10-25	62D80001025	Wave Washer
226	8059-09-06	62D80590906	Reel Drive Gear
227	9500-00-00	62D95000000	E Ring S 1.5
228	9853-00-00	62D98530000	Nylon Washer 3.1x6x0.3
229	8059-09-302	62D805909302	Clutch Ass'y
230	9999-06-04	62D99990604	Nylon Washer 2.98x6x0.3
231	8059-09-301	62D805909301	Middle Pulley Ass'y
232	9884-00-00	62D98840000	P Washer Cut 2.6x6x0.5
233	8059-09-17	62D80590917	Drive Belt
234	8059-09-303	62D805909303	P Gear Arm Ass'y
235	8059-09-20	62D80590920	Play Gear
236	8059-09-304	62D805909304	RF Gear Arm Ass'y
237	8059-09-22	62D80590922	FF Gear
238	9743-00-00	62D97430000	P Washer Cut 1.6x3.8x0.3
239	8059-09-305	62D805909305	P Gear Ass'y
240	8059-09-306	62D805909306	RF Gear Ass'y
251	8059-10-19	62D80591019	Brake Shoe
252	8059-10-01	62D80591001	S Brake Shoe
253	8059-10-02	62D80591002	Brake Arm Spring
254	8059-10-03	62D80591003	T Brake Arm
255	8059-10-301	62D805910301	S Brake Arm Ass'y
256	8059-10-302	62D805910302	T Brake Arm Ass'y
257	8059-10-16	62D80591016	Brake Lifter
258	8059-10-17	62D80591017	L Brake Actuator
259	8059-10-14	62D80591014	Trigger Hook
260	8059-10-13	62D80591013	Trigger Lever
261	8059-10-11	62D80591011	Brake Plate

CASSETTE DECK MECHANISM 59218

Ref.No.	TN Part No.	ST Part No.	Description
262	8059-10-09	62D80591009	Brake Actuate Base
263	8059-10-303	62D805910303	T Soft Brake Ass'y
264	8059-10-304	62D805910304	S Soft Brake Ass'y
265	9974-00-00	62D99740000	SL FH Screw (for Camera) 2x3
266	8059-10-07	62D80591007	T Soft Brake Arm Collar
267	8059-10-18	62D80591018	L Brake Actuator Spring
268	8059-10-06	62D80591006	T Soft Brake Arm Spring
269	8059-10-22	62D80591022	S Soft Brake Spring
270	9876-00-00	62D98760000	P Washer Cut 2.1x5x0.5
271	8059-10-23	62D80591023	Trigger Lever Spring
281	8059-11-301	62D805911301	LM Ass'y
282	8059-11-302	62D805911302	Trigger Bearing Ass'y
283	8059-11-03	62D80591103	Loading Pulley
284	9743-00-00	62D97430000	P Washer Cut 1.6x3.8x0.3
285	8059-11-06	62D80591106	Loading Belt
286	8059-11-12	62d80591112	Search Arm (B)
287	9884-00-00	62D98840000	P Washer Cut 2.6x6x0.5
288	8059-11-04	62D80591104	Loading Gear
289	9876-00-00	62D98760000	P Washer Cut 2.1x5x0.5
290	8059-11-13	62D80591113	Brake Actuate Arm
291	8059-11-14	62D80591114	Eject Arm
292	8059-11-303	62D805911303	Loading Cam Ass'y
293	8059-11-01	62D80591101	Loading Cam
294	8059-11-02	62D80591102	S Brush
295	9105-00-00	62D91050000	C Tapping Screw 3x4
296	9999-03-10	62D99990310	P Washer Cut 2.6x8x0.5
311	8059-12-301	62D805912301	Loading Lever Ass'y
312	8059-12-501	62D805912501	Loading Lever Semi-Ass'y
313	8059-12-13	62D80591213	Cam Roller
314	8059-12-09	62D80591209	L Gear Plate
315	8059-12-10	62D80591210	L Gear Plate Collar
316	9203-00-00	62D92030000	C Tapping Screw 3x6
317	8059-12-502	62D805912502	Loading Actuate Lever Semi Ass'y
318	8059-12-503	62D805912503	Loading Actuator Semi Ass'y
319	8059-12-05	62D80591205	Loading Actuator Spring
320	8059-12-11	62D80591211	Loading Lever Reinforce Plate
321	9077-00-00	62D90770000	Tams Screw 2x4
322	8059-12-12	62D80591212	L Gear Plate Spring
336	6808-08-04	62D68080804	Dew Sensor EYH-S10R
337	9096-00-00	62D90960000	Tams Screw 2.6x4
338	8059-13-302	62D805913302	Base Plate Ass'y
339	9691-00-00	62D96910000	S Tapping Screw (for Camera) 2.6x5
340	9193-00-00	62D91930000	C Tapping Screw 2.6x6
345	8059-13-303	62D805913303	Lamp Ass'y
361	8059-15-08	62D80591508	eject Actuator
362	8059-06-18	62D80590618	Collar
363	9192-00-00	62D91920000	C Tapping Screw 2.6x5
364	8059-15-07	62D80591507	L Brake Plate
365	8059-06-18	62D80590618	Collar
366	9192-00-00	62D91920000	C Tapping Screw 2.6x5

CASSETTE DECK MECHANISM 59218

Ref.No.	TN Part No.	ST Part No.	Description
367	8059-15-301	62D805915301	E Idler Arm Ass'y
368	8059-15-501	62D805915501	E Idler Arm semi Ass'y
369	8059-15-05	62D80591505	Eject Pulley
370	9876-00-00	62D98760000	P Washer Cut 2.1x6x0.5
371	8059-15-11	62D80591511	Idler Arm Spring
372	9876-00-00	62D98760000	P Washer Cut 2.1x6x0.5
373	8059-15-06	62D80591506	FL Belt
390	8059-16-303	62D805916303	Front Loading Ass'y
391	8059-16-304	62D805916304	C Load Bracket Ass'y
392	8059-16-305	62D805916305	F Loading Clutch Ass'y
393	8059-16-302	62D805916302	FL PCB Ass'y
394	8059-16-316	62D805916316	Sensor PCB RM Ass'y
395	8059-16-501	62D805916501	C Load Bracket Semi Ass'y
396	8000-22-28	62D80002228	SW Lever (A)
397	8000-22-29	62D80002229	SW Lever (B)
398	8059-16-06	62D80591606	F Worm Bearing (A)
399	9743-00-00	62D97430000	P Washer Cut 1.6x3.8x0.3
400	9096-00-00	62D90960000	Tams Screw 2.6x4
401	9078-00-00	62D90780000	Tams Screw 2x5
411	8059-16-306	62D805916306	Cassette Holder Ass'y
412	8000-22-03	62D80002203	Cassette Holder
413	8000-22-13	62D80002213	Slide Plate
414	8000-22-12	62D80002212	C Lock Plate (A)
415	8059-06-18	62D80590618	Collar
416	8059-16-29	62D80591629	Lock Spring
417	9968-00-00	62D99680000	SL Screw (for Camera) 2.6x3
420	8059-16-307	62D805916307	Front Angle Ass'y
421	8059-16-18	62D80591618	Front Angle
422	8059-16-25	62D80591625	Tape Guide (R)
423	8059-16-24	62D80591624	Tape Guide (L)
430	8059-16-308	62D805916308	Side Plate (R) Ass'y
431	8059-16-502	62D805916502	Side Plate (R) Semi Ass'y
432	8059-16-28	62D80591628	Cassette Push Plate
433	9833-00-00	62D98330000	Screw (for Camera) 2.3x2
434	8000-22-25	62D80002225	Open Lever
435	8000-22-44	62D80002244	Open Lever Spring
436	8000-22-42	62D80002242	Open Lever Collar
437	9967-00-00	62D99670000	SL Screw (for Camera) 2x4
438	8000-22-16	62D80002216	Lock Release Lever
439	8000-22-75	62D80002275	Guide Roller
440	8000-22-23	62D80002223	Guide Roller
445	8059-16-309	62D805916309	Side Plate (L) Ass'y
446	8059-16-503	62D805916503	Side Plate (L) Semi Ass'y
447	8059-16-28	62D80591628	Cassette Push Plate
448	9833-00-00	62D98330000	Screw (for Camera) 2.3x2
449	8000-22-66	62D80002266	C Lock Plate (L)
450	8059-16-30	62D80591630	Lock Plate Spring (L)
451	8000-19-63	62D80001963	Lock Plate Collar
452	9966-00-00	62D99660000	SL Screw (for Camera) 2x2.5
453	8000-22-75	62D80002275	Guide Roller

CASSETTE DECK MECHANISM 59218

Ref.No.	TN Part No.	ST Part No.	Description
460	8059-16-310	62D805916310	Frame (R) Ass'y
461	8059-16-504	62D805916504	Frame (R) Semi Ass'y
462	8059-16-311	62D805916311	Worm Wheel Ass'y
463	8059-16-20	62D80591620	Worm Wheel
464	8059-16-23	62D80591623	Friction Gear
465	8059-16-31	62D80591631	Friction Spring
466	8059-16-312	62D805916312	Lift Gear (R) Ass'y
467	8059-16-21	62D80591621	Lift Gear (R)
468	8000-22-11	62D80002211	Lift Arm
469	8000-22-45	62D80002245	LP Spring
470	8000-22-26	62D80002226	Open Lever Guide
471	8000-22-24	62D80002224	Guide Sleeve
472	9504-00-00	62D95040000	E Ring S2.5
480	8059-16-313	62D805916313	Frame (L) Ass'y
481	8059-16-505	62D805916505	Frame (L) Semi Ass'y
482	8059-16-301	62D805916301	Sensor PCB (LM) Ass'y
483	8059-16-314	62D805916314	Lift Gear (L) Ass'y
484	8059-16-22	62D80591622	Lift Gear
485	8000-22-11	62D80002211	Lift Arm
486	8000-22-45	62D80002245	LP Spring
487	8000-22-76	62D80002276	Lift Lever
488	8000-22-47	62D80002247	Lift Lever Spring
489	9504-00-00	62D95040000	E Ring S2.5
490	9099-00-00	62D90990000	Tams Screw 2.6x7
491	8000-22-24	62D80002224	Guide Sleeve
498	8000-22-65	62D80002265	Top Stay
499	8059-16-19	62D80591619	End Sensor Wire
500	8059-16-09	62D80591609	Rear Angle
501	8000-22-07	62D80002207	Upper Plate
502	8000-22-46	62D80002246	Synchronize Shaft
503	8059-16-17	62D80591617	Synchronize Gear (A)
504	9504-00-00	62D95040000	E Ring S2.5
505	9096-00-00	62D90960000	Tams Screw 2.6x4
506	9556-00-00	62D95560000	Screw (for Camera) 2.6x3
507	9991-00-00	62D99910000	Screw (for Camera) 2.3x2.5 (No.3)
508	9192-00-00	62D91920000	C Tapping Screw 2.6x4
531	8059-17-03	62D80591703	RG Slide Plate
532	8059-17-11	62D80591711	RG Slide Spring
533	8059-17-10	62D80591710	RG Slide Plate Collar
534	9077-00-00	62D90770000	Tams Screw 2x4
535	8059-17-09	62D80591709	RG Slide Base
536	8059-17-501	62D805917501	RG Arm Semi Ass'y
537	9884-00-00	62D98840000	P Washer Cut 2.6x6x0.5
538	8059-17-01	62D80591701	RG Actuate Arm
539	9876-00-00	62D98760000	P Washer 2.1x5x0.5
540	8059-17-02	62D80591702	RG Actuator